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The Technical College Image in South Carolina

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THE TECHNICAL COLLEGE IMAGE
IN SOUTH CAROLINA

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Educational Leadership

by
Charles Lowry McLafferty
December 2006

Accepted by
Dr. Russell A. Marion, Committee Chair
Dr. Jackson Flanigan
Dr. Lamont Flowers
Dr. Larry Grimes

ABSTRACT

This dissertation seeks to understand the perceptions of key constituencies (legislators, private and public college and university presidents, and technical college presidents) about technical colleges in South Carolina. It explores the impact of technical colleges in the state and the difficulties that technical colleges face in achieving that impact and adapting to future needs.

Survey instruments were distributed to these key constituencies. Data were reduced via factor analysis, and MANOVA procedures were used to analyze differences among constituencies on the factor scores. Open-ended questions and interviews with select participants illuminated, expanded, and validated the quantitative findings.

There were several key findings. The factor analysis identified five categories of perceptions, the most important of which was quality of students and faculty. This factor covers the heart of educational quality—academic reputation, faculty performance, articulation and cooperation with other colleges and universities.

The MANOVA analysis revealed that private and public presidents who responded to the survey hold a much less favorable view of the quality of students and faculty than do the technical college presidents. Further, most of the weaknesses cited in the open-ended questions refer to poor quality of faculty, too many part-time faculty, and the perceived lack of ability to provide transfer education. All three groups cite poor articulation with the four-year universities. A majority of the public and private college and university presidents agree that the technical colleges comply with the same

accreditation requirements, and yet less than half of those presidents agree that the technical colleges have well-qualified faculty.

Legislators and other presidents have mixed opinions as to the possible change of name of the South Carolina technical colleges to “community colleges.” Many of those opposed to the change fear the change would reduce the emphasis on technical education, an attribute cited by all three groups.

DEDICATION

This work is dedicated to my surviving children, Dr. Ardith Ann (Ardy) McLafferty, Dr. Karen M. Foust, and Dr. Charles L. McLafferty, Jr., each of whom earned a doctorate at one-third to one-half my age. All three were sources of encouragement and support during this five-year journey. Thanks to you all.

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CHAPTER I

INTRODUCTION

Recently, Boston Mayor Thomas M. Menino, who had attended a two-year college, was asked why he had failed to list the community college on his résumé. The mayor responded that he did not consider it a real college (*Fame and Shame Awards*, 2005). Menino's answer characterizes the problem of image that America's two-year colleges face.

Two-year colleges have dealt with negative image statements such as this since their inception. "Glorified high schools," and "bargain-basement colleges," comments angered early presidents of public two-year colleges, then called junior colleges (Brint & Karabel, 1989). In her study of the image of Illinois community colleges, Mitkos (2001) cites descriptions of the community college as the "Loser's Last Chance College." Herideen refers to "elite critics," most of whom are professors at four-year universities, who "regard the community college as a vastly inferior version of the four-year college in terms of scholarship, quality of education, and the skills of both faculty and students" (1998, p. 3).

This study seeks to understand the perceptions by three key constituencies (legislators, private and public college and university presidents, and technical college presidents) about technical colleges in South Carolina. It seeks to understand the perceived impact of technical colleges in the state, the difficulties that technical colleges

face in achieving that impact, and the challenges it faces in its efforts to adapt to future needs.

History of the Two-year College

This study explores positive and negative attitudes toward community colleges among key leaders and policy makers. These attitudes are better understood within the historical context of these institutions. A brief history is presented below and is expanded in Chapter II.

Two-year Colleges in the U.S.

The two-year college is a United States innovation. The first public junior college was Joliet Junior College, founded in 1901 in Joliet, Illinois (Brint & Karabel, 1989; Quigley & Bailey, 2003; O'Banion, 1989; Taber, 1995). Prior to that time, there were a few private junior colleges. By 1921, approximately 70 out of 207 junior colleges were public. By 1947, the public junior colleges represented half of the 650 total number of junior colleges in the U.S. (*Community, Junior and Technical College Directory*, 1983).

The 1947 President's Commission on Higher Education endorsed easy access to the first two years of college. The Commission proposed that these new two-year colleges call themselves "community colleges" instead of "junior colleges" (*Higher Education for American Democracy*, 1948). This proposal for easy access was based in part on the contention that, "The two-year college—that is, the 13th and 14th years of our educational system—is about as widely needed today as the four-year high school was a few decades ago" (Vol. 3, Chap. II, p. 5). The core of the Commission's proposal was that each community college should maintain "intimate relations to the life of the community it serves" (Vol. 3, p. 5). From 1947 onward, there was tremendous growth in public junior colleges,

with privately operated colleges gradually declining in numbers (Cohen & Brawer, 1996). The G. I. Bill of 1944 helped give impetus to the growth of community colleges in the late 1940s and the 1950s (Morris, 1997).

In 1972, M. J. Cohen (1972) estimated that 1,074 community colleges would allow 90% to 95% of the U.S. population to be within about 25 miles of a community college. Between 1976 and 2002, the number of public community colleges has stabilized at approximately 1,030 (*Community, Junior and Technical College Directory*, 1983; *Number of Community Colleges*, 2002).

In many states, the development began with the founding of junior colleges as feeders for four-year universities. Later, these states added courses in the technical areas, and became “community colleges” (O’Banion 1989; Townsend, 2001). Partly as a result of this expansion in scope, enrollment in U.S. community colleges rose from 566,000 in 1960 to more than 2,000,000 in 1969 (Koltai & Thurston, 1971).

The growth in enrollment at two-year colleges continued into the 1970s and 1980s. Public two-year college enrollment rose from 2,195,000 in 1970 to 5,697,000 in 2000. At the same time, part-time enrollments rose from one-half of the total in 1970 to nearly two-thirds in 2000 (*Digest of Education Statistics 2002*). O’Banion (1989) feels that the technical college innovation reached its zenith in the 1960s, with a genuine emphasis on open access and a shift by the two-year colleges into technical education. In the late 1980s, Cohen and Brawer (1989) found the community college system to be “mature,” although not necessarily rigid in attitudes. While two-year colleges have experienced tremendous growth in terms of enrollment, issues remain regarding the quality of their image.

The Development of Two-year Colleges in South Carolina

Instead of establishing junior colleges as feeders to four-year universities, South Carolina took a different approach. In the early 1960s, South Carolina developed a technical college system, with special flexibility toward the needs of industrial prospects. The original concept for South Carolina was to form “technical education centers,” or TEC schools, so that 95% of the population of the state would be within about 25 miles of a Technical Education Center. In South Carolina, each Technical Education Center was to be financed in part by the sponsoring counties and in part by the state. Within a few years, South Carolina had 16 technical colleges serving every county in the state. Initially, the entire emphasis was on technical education to the exclusion of courses for college credit (Lark, 2002). Enrollment in 1978 totaled 34,582, with 7% in associate degree programs (arts or sciences: AA/AS). By 2002, total enrollment had grown to 71,895, with 28% in AA/AS degree programs (*Factbook*, South Carolina Technical College System, 2006).

By the fall of 1990, all 16 of South Carolina’s technical colleges were offering courses leading to an associate’s degree (J. L. Hudgins, personal communication, July 23, 2003). By 2000, South Carolina’s public two-year colleges enrolled 51% of all public higher education undergraduate students. Nationally, public two-year college enrollment grew from 2,195,000 in 1970 to 5,697,000 in 2000 (*Digest of Education Statistics 2002*).

Statement of the Problem

Dougherty (1994) claims that community colleges conduct a “diversion effort;” that is, they steer their students from four-year goals into vocational training. Herideen (1998) raises the question “. . . whether the community college is a social institution that

reproduces existing social inequalities . . . by tracking students into dead-end jobs” (p. 2). Henry (2000) describes two-year colleges as “low on the food chain” in their states’ funding priorities (p. 37). Tschechtelin (1994) cites the view of some state officials that “create a mental ladder of success and prestige based on admissions criteria that places universities at the top, the state colleges in the middle, and the community colleges at the bottom” (p. 120). Cohen and Brawer (1996) report the political perspective of some scholars:

It is an agent of capitalism, training workers to fit business and industry; it is a tool of the upper classes, designed to keep the poor in their place by denying them access to the baccalaureate and, concomitantly, to higher-status positions in society (p. 389).

These negative views of community colleges have reached as far as the assignment of internet domain names. In June 1993, Network Solutions, Inc. (NSI), the registrar of domain names, announced the decision to restrict “.edu” to four-year institutions of higher education. The rule has been administered erratically since that time; many two-year colleges have been refused “.edu” names, although an estimated 300 two-year colleges have received “.edu” domain names (Georges, 2000).

Another concern deals with the transfer and articulation acceptance by four-year colleges and universities of courses taught in the two-year colleges. Manzo (2004) cites articulation between the two- and four-year colleges and universities as a major problem. Dougherty (1994) reports that the officials of some four-year institutions deny transfer credit because they consider the courses “inappropriate for community colleges to teach.”

Clark (1960) uses the term “cooling-out” to describe the process by which students would enroll in two-year colleges with four-year degree goals, but then would be guided into other, less rigorous, career paths. This method was also referred to as a “soft”

denial of the student's over-ambitious or misdirected goals. Clark cites this activity as a constructive alternative to the then-common four-year university custom of failing as much as one-third of the freshman class. Herideen (1998) cites four-year officials as contending that cooling-out was an insidious plan to keep the lower classes in their place.

Frieman, Bartow and Cox (2000) report perceptions by four-year college and university faculty that two-year college instructors are "cast-offs," that the students are all borderline performers, that the course offerings are not compatible with "real" colleges and universities, and that these low-tuition schools are offering unwelcome and inferior competition. Such comments suggest that there are many negative perceptions of two-year colleges; this problem points toward a need to study the image of South Carolina's technical colleges.

The attitudes of leaders and policy makers are of particular interest in this study. As discussed above, four-year university presidents are sometimes negative about the quality of two-year institutions. There is evidence in the literature that similar attitudes are expressed by state legislators. No studies were found that focused specifically on college and university presidents, or on the attitudes of state legislators, who exert tremendous influence over higher education. Knowledge of the attitudes of legislators is important because the legislators control the already-declining share of state money allocated to the technical colleges. Knowledge of the attitudes of four-year college and university presidents is important for two reasons. First, the four-year presidents compete with the technical colleges for higher education tax dollars. Second, cooperation between the two groups can be beneficial, not only to all of higher education, but also to industrial and business development in South Carolina.

Research Questions

The following questions will guide the study:

1. What are the perceptions of South Carolina's legislators regarding their experience, knowledge, role, support and ratings for technical colleges?
2. What are the perceptions of public and private four-year college presidents and technical college presidents regarding their experience, knowledge, role, support and ratings for technical colleges?
3. Are there differences in the perceptions among legislators, four-year college presidents and technical college presidents regarding their experience, knowledge, role, support and ratings for technical colleges?
4. What are the perceived strengths of the South Carolina Technical College System?
5. What are the perceived weaknesses of the South Carolina Technical College System?

Purpose of the Study

The purpose of the present study is to examine the perceptions and attitudes of the South Carolina legislators and South Carolina college presidents regarding their image of the South Carolina Technical College System (SCTCS). Further, the study explores their perceptions of strengths and weaknesses of the SCTCS. Recommendations for improvement are offered to key stakeholders and administrators in Chapter V.

This study has considered the image of South Carolina's technical colleges from three points of view—one, legislators (members of the South Carolina General Assembly); two, presidents of South Carolina's technical colleges; and three, the presidents (chief administrators) of all other South Carolina institutions of higher education. Each of these groups plays a critical role in the future of technical colleges.

Although the leaders of four-year institutions of higher education do not directly control the purse strings for technical colleges, their attitude is important. If they have a

poor image of the technical colleges collectively, the leaders of the four-year colleges and universities may be less likely to cooperate with the technical colleges in articulation and other mutually helpful projects, and may also be less likely to favor funding for activities which could be perceived as competition. The South Carolina Commission on Higher Education, in its mission statement, promises that it “will promote quality and efficiency in the State system of higher education with the goal of fostering economic growth and human development in South Carolina” (*Mission, Functions and Goals of the South Carolina Commission on Higher Education*, 2005). Careful assessment of the perceptions of the South Carolina Technical College System may lead to constructive changes, which will aid the System in achieving its share of the Commission’s goals.

Methodology of the Study

The study involved three separate methodological approaches. The first was a quantitative analysis of a survey instrument that was distributed to these key constituencies. Data were reduced via factor analysis, and MANOVA procedures were used to analyze differences among constituencies on the factor scores. The second approach evaluated open-ended questions that were included on the survey instrument. Nearly two-thirds of the respondents offered comments. The open-ended questions along with interviews with selected participants—the third approach—helped to illuminate, expand and validate the quantitative findings.

The MANOVA analysis revealed significant differences in the views of the groups, and focused on the primary areas of differences. Triangulation of the three approaches confirmed, for the most part, the similarities and differences revealed by the statistical summary. The results of the study are presented in Chapter IV.

Researcher Bias

For seven years, the researcher taught accounting courses at Orangeburg-Calhoun Technical College. The quality and dedication of the faculty were most impressive, as was the desire to learn on the part of the students. The researcher admits to a favorable bias toward technical colleges.

Another caution the researcher must exercise is that he has seen only one technical college in action. The other 15 technical colleges in the research population may be better or worse, but it is certain that each one is different, because each college is a product of the needs of the community it serves. Despite attempts to present the data objectively, the researcher may still allow his biases to show. The reader is asked to consider the recommendations presented in this study in the light of this possible partiality.

Definitions of Key Terms

The following are the key definitions used in this study.

Articulation: The process of equating courses of one institution to courses of another institution and determining the way the classes will be used at the receiving institution.

CHE: The South Carolina Commission on Higher Education, the body that oversees all of the public colleges and universities in South Carolina.

Community College: An associate degree-granting institution that is established by local communities and governed by a locally elected or appointed board, and primarily funded through public tax dollars (Cohen & Brawer, 1996; Taber, 1995). “Community college,” “technical college,” “junior college” and “two-year college” are used interchangeably, unless otherwise stated. The two-year campuses of the University of South Carolina are not part of the South Carolina Technical College System; in any discussion involving these schools, they will be specifically identified.

CRPP: The Center for Research and Public Policy.

Four-year Colleges and Universities: Institutions legally authorized to award bachelor's degrees.

General Assembly: South Carolina's legislative body, consisting of a Senate with 46 members, and a House of Representatives of 124 members (*2005 South Carolina Legislative Manual*).

Image: The sum of perceptions of technical colleges by different groups.

Junior College: An early name for the two-year college. Only 15 two-year colleges currently use this term (*U. S. Community Colleges by State, 2005*).

Legislators: Members of the South Carolina General Assembly.

Other Presidents: The presidents of the 44 South Carolina higher education institutions other than technical colleges. This group includes 17 public universities, and 27 private colleges and universities.

President: The term used to describe the chief executive officer of a South Carolina college or university. Some institutions may use different titles, such as chancellor or dean.

SACS: The Southern Association of Colleges and Schools, the accrediting body for the southeastern United States.

SCTCS: The South Carolina Technical College System, the agency that controls the operations of the 16 technical colleges in South Carolina.

Technical College: The term for the two-year colleges that are part of the South Carolina Technical College System.

USC: The University of South Carolina, one of South Carolina's three research universities.

Limitations

The present study and its recommendations apply to the South Carolina Technical College System. Two-year branch campuses of the University of South Carolina are excluded from this study.

The results of this study have limited applicability to other states. It is entirely possible that recommendations from this study can assist a researcher in another state, even though that researcher may reach vastly different conclusions. It is hoped that the

conclusions expressed in this dissertation will provoke constructive discussion of the role of technical colleges in the South Carolina Technical College System in both higher education and in South Carolina's industrial development.

CHAPTER II

REVIEW OF THE LITERATURE

In reputation, two-year colleges are at the bottom of the higher education pyramid from several points of view (Grubb, 1999; Templin & Shearon, 1980). Many faculty and administrators of four-year colleges and universities look down on the two-year college faculties as being less qualified (Frieman,, Bartow & Cox, 2000) and lacking interest in research (Boggs, 2006; Cohen & Brawer, 1996; and Miller, 1985). K-12 educators, including many high school guidance counselors (*Image*, 2000 and Welch, 2004), see the two-year colleges as institutions to be avoided because they do not offer four-year degrees, or they appear to be offering only technical education. Parents may view the two-year colleges as offering a “cheap” education because of the low tuition, and others may feel their child is not able to attend a “real college” (*Image*,2000; Welch, 2004).

Alumni of two-year colleges may not exhibit the same pride of their alma mater because such schools do not have the prestige of a research institution or the highly publicized sports teams that a four-year university may claim. Students at two-year colleges may be reluctant to admit that they are taking remedial courses, even though the remedial courses may allow them to receive a level of education that might otherwise have been denied to them. According to Roueche, Ely and Roueche (2001), students at the Community College of Denver who needed remedial (developmental) courses were as likely to graduate as the students who did not need remedial courses.

Because South Carolina's technical colleges began as Technical Education Centers, many of the early leaders felt that these schools should be limited to technical education. Wade Martin, who was a major participant in the initial startup in South Carolina, was quoted as saying that "TEC schools" should be limited to technical education, lest the academics take over and completely obscure the original objective (personal communication, Mrs. John Hills, August, 2003). In a 1993 resolution, the South Carolina General Assembly agreed with Mr. Martin's point of view by saying that the term "community" was not acceptable in naming South Carolina's technical colleges (*A Concurrent Resolution Commending the State Board for Technical and Comprehensive Education*, 1993). More recently, Senator Hugh Leatherman, chairman of the Senate Finance Committee, threatened to withhold funding from Spartanburg Technical College if that school's commissioners voted to change the name of the school to Spartanburg Community College (Dalton & Mesha, 2006). Faced with an \$11,000,000 loss of funds, the commissioners decided not to change the name. Senator Leatherman expressed fear that the name change would change the mission of the college.

Four-year universities, however, need the two-year colleges so that applicants who are not accepted in the universities still have somewhere to go for a college education (Dougherty, 1994). If the four-year universities take the cream of the crop, the remaining candidates are likely to be less qualified and in greater need of remedial classes. Those remaining candidates may be more likely to have over-ambitious goals, thereby requiring special guidance through career choices, some of which may seem less prestigious than the earlier, less attainable, goals (Clark, 1980).

Is there a difference between the perceptions of South Carolina's technical colleges and the reality of their accomplishments? Do those perceptions mean that the South Carolina Technical College System is not being utilized as well as it could be? If so, what, if anything, can be done about it? A review of the literature may help to offer a perspective, both from the national point of view and from the South Carolina point of view.

The literature on the image of the two-year college consists of several comprehensive studies, and comments are found in sources covering other areas of interest related to the two-year colleges. Two studies were found which related specifically to the image of South Carolina's technical colleges. One is the *Image and Perception Study*, by The Center for Research and Public Policy (2000), which reports the results of interviews with legislators, residents, business leaders and K-12 educators. The other study is *An Analysis of Perceptions of Technical Education in South Carolina*, a Clemson University dissertation by Nancy Turner Welch (2004), which reports the results of a survey of high school and technical college guidance counselors.

The Mission of Community Colleges

Grubb (1999) cites multiple objectives for community colleges:

1. they offer open access to students who might not qualify for higher education otherwise,
2. they are comprehensive institutions with multiple purposes—academic, vocational and remedial,
3. they consider that many education activities involve fragmentation (attention given to a single subject or isolated skill), not coherence, and
4. although they are primarily local, they prepare their students for global activities.

Grubb (1999) further states that the lower fees and open-door policies of community colleges have allowed many students to overcome financial and academic deficiencies to obtain a college education. O'Banion (1989) defines the community college mission by stating that they are re-trainers of displaced workers, incubators of new business, centers for high technology and providers of customized training.

Other authors offer varying opinions as to the mission of the two-year colleges. Carnevale and Desrochers (2001) point out that community colleges face a dual commitment to social equity and to the changing needs of communities, employers and individuals. Bailey (2002) discusses conflicting goals of the community college—providing quality education and trying to remedy the weaknesses of unprepared students. Brubacher and Rudy (1997) support the goal of community colleges to be geographically available, but add that the two-year college's "most pregnant possibility lay in orienting itself to the needs of the great mass of people who would not be going on" (p. 257).

Bailey and Morest (2004) condense all community college activities into three categories: core, vertical and horizontal. The core covers all degree-granting and transfer activities, including remedial instruction. Vertical activities include relationships with high schools to attract students into community college programs and articulation of curricula with four-year universities to assure that students completing a two-year program are able to make a seamless transfer to a four-year college or university. The horizontal mission "involves reaching out to the community through a diversification of educational and other types of community services" (p. 7). Community services may include non-credit courses whose subjects vary, depending upon the needs of the community.

More essential community objectives include partnerships with the business community, as underscored by Hudgins and Williams (1995, p. 268):

Change, as expressed in terms of America's ability to compete in world markets, is so fast-paced that teamwork and partnerships between education and communities are no longer just good ideas, they are vital.

Wenrich and Hughes (1995, p. 230) offer similar comments:

What is required is a whole new set of "win-win" relationships with private businesses, public and civic organizations, and other educational institutions. This kind of collaboration includes jointly developed programs and facilities as well as shared revenue and economic enhancement opportunities.

The common theme for the community college mission is that the college must provide transfer education, remedial education, and technical education. In addition, the community college must be sensitive to the special needs of the community it serves. The community college movement has received both positive and negative comments on its approach to education.

Issues and Criticism Regarding Community Colleges

Most public two-year colleges were created to serve the needs of a local area. At the same time, these same institutions are described as "not institutions like the university; they're looked on as kind of very low status" (Grubb, 1999, cover page). Their very strength of adaptability to local needs may lead others to see the two-year colleges as lacking consistency in curriculum. Following are the varying points of view of scholars of two-year colleges.

Ability to Meet Local and State Needs

According to Dougherty (1994, p. 14) “the community college has effectively met business’ demands for trained workers and elite state universities’ desire for a means to turn away less attractive students.” O’Banion (1989, p. 12) states, “Community colleges are now being viewed by state governments and other agencies as major players in . . . economic development.” He also notes that community colleges are building alliances “with other segments of education and with other agencies in the community and the nation.” In his testimony before a U.S. Senate committee, Dr. Charles H. Bohlen expressed the view that “community colleges are the primary providers of a technically skilled workforce” (2004, p. 2). According to O’Banion (1989, p. 18), “South Carolina is a model state in which regional centers have been designed by community colleges and the state government to serve new high-tech industries.”

Bailey and Morest (2004) report that many community colleges have recognized that the higher-achieving high school students may take dual-enrollment courses, but upon graduation, will receive scholarships to four-year universities. Some community colleges are introducing honors programs as a way to attract this group, which they regard as an untapped market. One study, in 1999, estimated that 36% of community colleges had honors programs.

Success with Poor Achieving Students

Although community colleges are making efforts to attract the brightest students, they find themselves accepting many students who are ill-prepared and often poorly motivated to succeed at college-level work. Two studies, however, found that many of these students, who are often rejected by four-year universities, can learn beyond the high

school level. The first was a study of military recruits by the Ford Foundation (Sticht, Armstrong; Hickey & Caylor, 1987), and the second was the development of learning concepts by Benjamin Bloom at the University of Chicago (Bloom, 1981).

The Ford Foundation conducted a study of military recruits who were admitted to service despite scoring below the normal eligibility level. These candidates, who were classed as possessing IQs of 70 to 91, had an overall attrition rate of 14%, twice the normal average. However the group also had an 86% success rate, where the armed services, by their normal regulations, would have rejected them all as failures. About half of the remaining unsuccessful trainees were separated for death, disability, or other causes not related to performance; the other half were separated for unsuitability, ineptitude or behavioral problems. This suggests that marginal candidates can be trained to perform specific jobs successfully and that educational opportunities should be available to them (Sticht, Armstrong; Hickey & Caylor, 1987).

Benjamin Bloom (1956) identified three major areas of learning: cognitive skills, psycho-motor skills, and affective skills. He encouraged other educators to develop methods by which students could learn in each of these areas. Through his work, Bloom demonstrated that 90% of students could learn with time and support (Bloom, 1981). Like the Ford Foundation study, Bloom's analysis affirms that lower ability students can benefit from advanced training. This supports the rationality of the community colleges' open enrollment policies.

Philosophical support for remedial education is given by the former chancellor of the Dallas County Community College District, J. William Wenrich (1995), who quotes Thomas Jefferson, "We should build an aristocracy of achievement based on a

democracy of opportunity.” Wenrich went on to show that community colleges have been able to take 18-35 year-olds who are lacking in knowledge, skills and motivation, and train them to perform successfully at the college level. The problem for the South Carolina Technical College System is that perceptions of the system, if different from reality, could have a negative effect on funding and cooperation with both South Carolina’s four-year colleges and universities and its secondary schools.

The American Association of Community Colleges sought to boost the image of two-year college graduates by publishing success stories of distinguished community college alumni. Included in the 2005 listings are three well-known authors of articles on community colleges, seven persons who served as president or chancellor of a university or college, and 12 people with current or past service in the U.S. Congress (*Notable Alumni*, American Association of Community Colleges, 2005).

The Real Choice

If there were no community colleges, what would be the educational choice for the students who are not likely to be admitted to four-year universities? Cohen and Brawer (1996, p. 55) summarize their view of community colleges with, “For most students in two-year institutions, *the choice is not between the community college and a senior residential institution; it is between the community college and nothing*”.

National Criticism of Community Colleges

The conflicting objectives of the community college have also led to wide-spread criticism. O’Banion (1997) argues that community colleges have become inflexible, and that they need to adjust to the times. He contends that adjustment should be made quickly

to avoid consignment to the “rubbish heap of history.” Jencks and Riesman contend that community colleges “teach both subjects and students whom most scholars describe as worthless” (1977). Miller (1985) holds that the leaders in the two-year colleges do not believe that technical education has been granted the prestige it deserves. In a recent appearance before the National Council of State Legislatures, George R. Boggs, President of the American Association of Community Colleges, cited the “often underappreciated role” of the community colleges, and referred to “efforts in some states to devalue the credentials of community college graduates” (2006).

Cooling Out

In 1980, Clark, who had attracted attention in 1960 by claiming that the two-year colleges were “cooling out” students by guiding them away from four-year colleges, posed six possible alternatives to cooling out:

1. pre-selection, meaning the student would have to qualify for admission, contrary to the current open enrollment policy. The qualification would be done either by the secondary school or by the community college at the time of application;
2. discouraging students from enrolling in transfer credit courses;
3. open failure, the process by which the low-performing student is simply asked to leave, without being offered any alternative to failure;
4. guaranteed graduation in technical schools;
5. lessening the distinction between transfer and terminal programs; and
6. eliminating two-year colleges by closing or converting to four-year colleges or universities.

Clark rejected all of these alternatives. He concluded that students with unrealistic ambitions had to be guided toward achievable goals: “The problem that causes colleges to respond with the cooling-out effort is not going to go away by moving it inside of

other types of colleges. *Somebody* has to make that effort, or pursue its alternatives” (pp. 23-24). Clark’s contention was that the student who has failed or is pursuing an over-ambitious goal cannot simply be thrown into a career trash heap. Instead, someone must counsel that student toward a successful career. It does mean, however, that these students must be guided toward doable--although often less ambitious--goals. Clark also referred to “warming up,” the process by which a community college student might move from lower goals to higher goals, either by personal decision or by following advice of caring faculty members. According to Clark, “There clearly are students who perform better scholastically than they did in high school and who raise rather than lower their aspirations” (p. 25). Clark cited research by Baird (1971) which pointed toward the possibility that there were substantial numbers of “warmers” in two-year colleges. Clark felt, however, that Baird’s method of selection omitted students who had already dropped out, thereby understating the numbers who had cooled out.

Nationally, two-year colleges have been criticized for moving into technical training, away from the original mission of providing transfer students to four-year institutions (O’Banion, 1989). In a study of the attitudes of high school principals in North Carolina, Dowell (1980) concluded that the principals lacked a favorable attitude toward vocational/technical education. Dowell did find that principals who were over 50 and/or in rural areas were more likely to have favorable attitudes toward vocational/technical education than those in urban areas. Welch (2004) found high school guidance counselors in Greenville County, South Carolina to be unfavorable to technical colleges.

Social Stratification

Some critics see a darker side to career education at community colleges. Cohen and Brawer (1996) maintain that some commentators claim that these “occupational programs channel low income and minority students away from academic studies and the upward social mobility attendant thereon” (p. 238). Miller (1985) states that “the American public has been accused of intellectual snobbery and believing that vocational education is all right for somebody else’s children” (p. 110). Johnston (1980) reports, “There are those who see community colleges functioning to sort and filter students along class lines to perpetuate economically underprivileged groups—the real proletariat—in their lower-class status.” Templin & Shearon (1980) take the view that, because the two-year colleges are at the bottom of the higher education structure, their students will remain at the lower end of the social structure.

Dougherty (1994) contends that the community college diverts students away from four-year goals into vocational training. Herideen (1998) claims that the community college reproduces existing social inequalities by guiding their students toward dead-end jobs. Cohen and Brawer (1996) report the political view by some scholars that the community college was benefiting the upper classes by training students from lower classes for lesser jobs, thereby keeping them from higher education and higher status.

Other Issues

Cohen and Brawer (1996) go to great length to discuss the dilemma faced by community colleges with their open admission policies. As long as the four-year colleges and universities have selective admissions, the community colleges suffer by comparison. The authors further report: “There still is little articulation between community colleges

and secondary schools. Community college instructors rarely speak to their counterparts in high schools” (p. 321).

Cohen and Brawer (1982) report that one complaint of community college faculty is that they are required to deal with students who are ill-prepared for advanced schooling. Jencks and Riesman (1977) suggest the term “Anti-University College,” for the implied lack of emphasis on scholarship on the part of the technical colleges.

Community college faculty members are sometimes regarded as less qualified than faculty members of four-year universities. Frieman, Bartow and Cox (2000) cite an articulation meeting where it became apparent that many four-year college and university professors felt that they were superior to community college professors. It took many meetings before a mutual respect was developed between the two groups. Further criticism of community college faculty was offered by Cohen and Brawer (1996, p. 326): “Community college instructors tend not to conduct scholarly inquiry, not to belong to disciplinary associations, not to be excessively concerned with disciplinary purity”.

According to Rosenfeld (2004), 40% of South Carolinians lack the educational skills to help our state to compete for new industry. About half of these lack a high school diploma, and the other half work in low-skilled jobs. Rosenfeld also confirmed that 85% of jobs require some education beyond high school, meaning that our state is facing a serious imbalance. If the low-skilled 40% of our workforce, with a high school education or less, are fighting for the 15% of available jobs not requiring education beyond high school, a large number are destined to remain unemployed or under-employed. Worse yet, this means that there is an unfilled demand for technically-trained employees.

Rosenfeld (2004, pp. 16-17) reported a survey which supports the importance of the technical colleges.

A web-based survey of 222 “partners and allies” conducted by the South Carolina Department of Commerce in 2003 found that 76% rated a trainable workforce at the highest level of importance (five on a five-point scale), 60% gave the technical colleges a rating of five, and 28% gave the research universities a rating of five.

Response to the Critics

“The critics’ conclusions that the community college is the manifestation of an insidious conspiracy against the poor are not warranted.” (Cohen & Brawer, 1996, p. 405). Cohen and Brawer point out that programs with high admission requirements (e.g., nursing and dental hygiene) have relatively high graduation rates. Where admission is open, however, a significant percentage of students will not complete their courses of study. Community colleges do offer an alternative other than “drop out” to students by steering them into fields where they can succeed. Dougherty (1994) takes a somewhat middle-of-the-road view by saying the community colleges are “democratizing access to higher education,” while they are also “hampering attainment of the baccalaureate” (p. 21).

Perhaps in response to negative criticism, the two-year colleges that called themselves junior colleges have begun to choose other names to describe their organizations.

Name--Trend Toward “Community College”

Following the recommendation of the Truman Commission (*Higher Education for American Democracy*, 1948), “community college” has become the most popular name for the two-year college in the United States. By the year 1993, only 20% of the 1,224 two-year colleges were using “junior” or “technical” in their titles, with the most

common descriptor being “community college” (Hudgins, 1993). For example, the state of Maine changed the names of its seven technical colleges to community colleges as of July 1, 2003 (Wallack, 2004). A recent listing shows only 15 two-year colleges that are labeled as “junior colleges,” including the original public junior college, Joliet Junior College (*U. S. Community Colleges by State*, 2005). In addition, only 132 two-year colleges use “technical” in their titles.

South Carolina, however, has resisted the trend toward a name change. On April 5, 1993, the South Carolina General Assembly passed a resolution (*A Concurrent Resolution Commending the State Board for Technical and Comprehensive Education*, 1993) stating that the term “community” undermined and detracted from the primary mission of the technical colleges. In 2003, the Education Subcommittee of the Governor’s Economic Development Task Force (*Governor’s Economic Development Task Force Report*, 2003), recommended a study to determine whether a name change would remove “the perception by parents and students that they do not value attendance at a ‘tech school.’” During the 2005 session of the South Carolina General Assembly, the House passed H. 3193 (2005), allowing technical colleges to change their names to “technical community colleges,” but the bill did not pass the Senate. Early in 2006, the Spartanburg County legislative delegation sponsored a bill allowing Spartanburg Technical College to change its name to Spartanburg Community College. That action was blocked when the chairman of the Senate Finance Committee threatened to withhold funding for the school (Dalton & Mesha, 2006).

Image Study of South Carolina's Technical Colleges

The *Image and Perception Study* (2000) conducted by The Center for Research and Public Policy (CRPP) for the South Carolina Technical College System was based on telephone interviews with business leaders, heads of household, educators (K-12), and legislators. The purpose of the study was to serve as a benchmark of current perceptions held by members of these four market segments about the South Carolina Technical College System and its 16 colleges. Findings from the CRPP study revealed several strengths of South Carolina's technical colleges:

1. they provide affordable and valuable education,
2. they are a good training source for business and workers,
3. they are flexible and offer quality programs, and
4. they are good community citizens.

The Truman Commission recommended that each community college maintain "intimate relations to the life of the community it serves" (*Higher Education for American Democracy*, 1948, Vol. 3, p. 5). Orangeburg-Calhoun Technical College, for example, has begun requiring its last-semester business students to come to class in business attire, and to engage in realistic interview situations before they can graduate (Special Projects, 2006). In the 1970s, Horry-Georgetown Technical College, because of the large number of golf courses in the area, began offering programs in golf course management, with the first students graduating in 1974. According to the college's alumni directory, graduates are working in 32 states and several foreign countries (HGTC GCM Alumni, 2006). South Carolina's success with awareness of community needs has led to a compliment from John Roueche, holder of the Sid Richardson Chair in Community College

Leadership at the University of Texas, Austin: “South Carolina is one of maybe the two leading states in using community and technical colleges as strategies for economic development” (Holmes, 2002, p. 6).

Perceived Weaknesses of South Carolina’s Technical Colleges

The 2000 study (*Image and Perception Study*, 2000) identifies four categories of perceived weaknesses among South Carolina technical colleges:

1. poor academics,
2. unqualified faculty and poor equipment,
3. “not a full university” and
4. the technical colleges were not attracting quality high school students.

Welch (2004), in her survey of South Carolina guidance counselors, confirmed each of these perceptions. Welch counters the “unqualified faculty” contention by pointing out that South Carolina’s technical colleges are accredited by the Southern Association of Colleges and Schools (SACS), the same accrediting body that rates the four-year college and universities, and that all 16 of South Carolina’s technical colleges have been accredited for more than 20 years. The misconception has probably arisen because of the SACS provision that an auto body repair instructor, for example, may qualify based on years of experience in that field. Welch added that the low tuition of the technical colleges is equated by some to a lack of value, and that the absence of student organizations at some technical colleges allows some critics to feel that the technical colleges are not “real colleges.”

The South Carolina Cutting Edge Act requires that South Carolina's technical colleges provide remedial education (*Policies on Remedial Education in South Carolina*, 2005, Act 629). Because the Act prohibits remedial courses from being used for degree credit, those courses are viewed as something less than a college education. Remedial courses are a natural outcome of the open-door policy followed by all of the members of the South Carolina Technical College System, wherein no applicant is turned away because of previous academic weaknesses or low test scores.

Due to the fact that South Carolina's technical colleges had their beginning as Technical Education Centers, it appears that many people retain the image of the "tech school." Dr. James L. Hudgins (personal communication, July 23, 2003) reported that many prospective employers are surprised to learn that South Carolina's technical colleges are not just trade schools. In a similar vein, Dr. Hudgins indicated that many high school faculty, students and parents believe the technical colleges are just "tech schools" that cannot help high school graduates to accomplish their educational goals.

Two other difficult areas cited by Welch (2004) dealt with academic reputation and faculty qualifications. Academic reputation was rated "very good" by 53% of technical college guidance counselors but by only 16% of high school guidance counselors. "Well-qualified faculty" was rated "very good" by 80% of technical college guidance counselors, but by only 44% of high school guidance counselors.

Summary

Regardless of whether they began as junior colleges providing transfer education or as technical colleges training technical workers for industry, the nation's public two-year colleges have developed quite similar curricula, with virtually all providing remedial

education. The common denominator among all of the public two-year colleges is local control. On the positive side, the colleges are considered to be affordable, flexible, and able to provide good training for business. Many critics, however, regard the public two-year colleges as at the bottom of the educational pyramid, with poor academic reputations and less-qualified faculties. Harsher critics contend that the two-year colleges are part of an insidious plan to keep the poor from progressing to higher stations in life. Although the number of public two-year colleges has remained constant over more than 25 years, enrollment has increased dramatically.

Hypotheses

The following hypotheses are derived from this review of the literature:

- Hypothesis 1: There are significant differences between the perceptions of the legislators and the other college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.
- Hypothesis 2: There are significant differences between the perceptions of the technical college presidents and legislators regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.
- Hypothesis 3: There are significant differences between the perceptions of the technical college presidents and public college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.
- Hypothesis 4: There are significant differences between the perceptions of the technical college presidents and the private college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.
- Hypothesis 5: There are significant differences between the perceptions of the members of the Senate and members of the House regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

CHAPTER III
METHODOLOGY FOR THE STUDY

The Design—Methods and Procedures

The purpose of this study is to examine the prevalent perceptions of legislators and presidents of colleges and universities regarding various aspects of the South Carolina Technical College System. Two analyses were performed: one quantitative; the other, qualitative. The quantitative analysis consisted of a factor analysis of survey responses that clustered the data, followed by factor analyses to identify differences among respondent groups regarding those factors. The qualitative analyses related to the responses obtained during in-depth interviews with selected individuals from each group of respondents, and to the responses to the open-ended questions on the survey instrument which was used in this study.

Quantitative Analysis

Instrumentation

The survey instrument (Appendix, Exhibit A) has been adapted from the instrument used in the *Image and Perception Study* (2000) by The Center for Research & Public Policy (CRPP), commissioned by the South Carolina Technical College System. The CRPP reports that it had performed “editing, validation and logic checks” on the survey instrument. In its telephone survey, the CRPP staff interviewed more than 1,200 business leaders, residents, educators and legislators/legislative staff. Written permission has been received from the SCTCS to adapt this survey instrument.

The survey instrument has three major parts: demographic information, five yes-no questions regarding the respondent's experience with technical colleges 27 questions in Likert-scale format, and two open-ended questions asking for strengths and weaknesses of South Carolina's technical colleges. The two survey instruments are shown in Appendix A.

The adjustments to the SCTCS survey include elimination of some questions that are not practical in a written instrument (as opposed to a telephone survey), revisions to better fit the Likert scale, and the omission of some questions which did not appear to relate to technical college perceptions. The Likert scale was intended to be consistent throughout the survey instrument, with five choices ranging from "Strongly Disagree" to "Strongly Agree." Questions pertaining to articulation and remedial education have been added. The survey instrument includes sections on demographics, experience, knowledge, role of the technical colleges, support, ratings, funding and strengths and weaknesses.

The paper on which the survey instrument is printed varies in color, depending on the status of the addressee (senator, representative, public or private college or university president, technical college president, etc.), in order that the responders omitting demographic information may be properly categorized.

Population

The population to which the survey instrument was sent consists of all 170 legislators (46 senators and 124 representatives) and all 60 South Carolina college and university presidents. The latter group consists of presidents of 17 public and 27 private colleges and universities, and 16 technical colleges. The listing of public universities in-

cludes the research universities—Clemson University, the University of South Carolina, and the Medical University of South Carolina. The names and addresses of legislators were taken from the *2005 South Carolina Legislative Manual*, and the names and addresses of South Carolina college and university presidents were taken from a list furnished to the researcher by the South Carolina Commission on Higher Education (*Colleges and Universities in South Carolina*, 2005). Information concerning subsequent changes was taken from the web site for the General Assembly and from newspaper reports.

Data Collection

The survey instrument was mailed to all South Carolina college and university presidents and all legislators. Two mailings were sent to each prospect: (1) The survey instrument, accompanied by a stamped envelope, a letter explaining the purpose and the importance of the survey, and a detailed explanation required by the Clemson University Institutional Review Board (Information Concerning Participation in a Research Study); and (2) a follow-up post card thanking those who participated and urging the non-participants to send in the survey form (Appendix B). Trochim (2001) cites at least three advantages to the mail survey: it is inexpensive, the same form may be sent to a large number of people, and the respondents may complete the survey at their own convenience. Kerlinger and Lee (2000) concur, and add that the anonymous response allows the responder to be honest and frank. However, these authors also state that a major drawback to the mail survey is the lack of response--often less than 50%--and recommend aiming for a return of 80-90%.

Two major drawbacks, per Trochim (2001), are the potentially low response rate and the difficulty of obtaining detailed written responses. Summerhill and Taylor (1992) contend that the mail survey can be regarded as representative of the population only if there is a high rate of response. These scholars also report that, in one study, a follow-up letter increased the response rate by 11%. To assure response validity, every effort should be made to produce a high response rate. However, Leslie (1972) concludes that:

. . . [W]hen surveys are made of homogeneous populations (persons having a strong group identity) concerning their attitudes, opinions, perceptions, etc., toward issues concerning the group, significant response rate bias is probably unlikely . . . (p. x).

Although Leslie's conclusion may lessen the need to achieve, say, an 80% response rate, it still seems desirable to include the follow-up postcard in the mailing plan. Other scholars who favor follow-up postcards are Dillman (2000), Jussaume and Yamada (1990), Salant and Dillman (1994) and James and Bolstein (1990).

For optimum response, it appeared that a two-part mailing--a cover letter with the survey instrument and a follow-up postcard—was clearly the best choice.

Attempts were made to include a letter from a colleague of respondents that supported the study and who urged the respondent to return the completed survey. The goal was to include one letter for senators, one for representatives, one for technical college presidents, and one for all other college and university presidents.

Confidentiality was emphasized in the correspondence that accompanied the survey instrument. Assurances were given that participants would have complete anonymity. Individuals were not to be identified by name, and statistical reporting was to be done in such a way that individual respondents could not be identified.

The approximate time schedule for the mailing was as follows:

1. Week 1: Mailed letter (#1), with the survey instrument, "Information Concerning Participation in a Research Study," a letter of support (if available), and a stamped return envelope.
2. Week 3: Mailed a postcard (#2), thanking those who have responded and asking the non-responders to return the survey form. Because the returned survey instruments were anonymous, the postcard was sent to all participants in the study.

In addition to the mail survey, interviews were conducted with selected members of the survey group. A total of six persons agreed to be interviewed.

Data Analysis

Descriptive statistics have been produced showing the perceptions reported by each major group. The five research hypotheses identified earlier in the literature review are:

- Hypothesis 1: There are significant differences between the perceptions of legislators and the other college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.
- Hypothesis 2: There are significant differences between the perceptions of the technical college presidents and legislators regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.
- Hypothesis 3: There are significant differences between the perceptions of the technical college presidents and public college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.
- Hypothesis 4: There are significant differences between the perceptions of the technical college presidents and the private college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.
- Hypothesis 5: There are significant differences between the perceptions of the members of the Senate and members of the House regarding their

experience, knowledge, role, support and satisfaction ratings for technical colleges.

To test for reliability, Cronbach's Alpha was run on the three major question groups in the survey instrument. The open-ended questions regarding strengths and weaknesses were organized by logical categories and used to supplement the qualitative analysis. Factor analysis was performed in order to further verify the validity of the data, to reduce the items in the survey instrument to a manageable and definable set of factors, and to create factor scores based on weightings calculated for each survey question (per factor). According to Field (2005), "Factor analysis is a *multivariate* technique for identifying whether the correlations between a set of observed variables stem from their relationship to one or more *latent variables* in the data, each of which takes the form of a linear model" (p. 731). Factors were identified using oblique rotation procedures because natural correlation among factors was needed for the subsequent stage of the analysis. Differences among the groups (identified in the hypotheses) on each factor were analyzed using MANOVA (multivariate analysis of variance) procedures. Field (2005) describes MANOVA as a "family of tests that extend the basic *analysis of variance* to situations in which more than one *outcome variable* has been measured" (p. 739). The results of these analyses are described in detail in Chapter IV.

Qualitative Analysis

Six persons were interviewed in the qualitative portion of this study, each of whom offered a unique point of view. Interviewees were selected for their positions of authority in South Carolina's higher education system or for their representation in the various classes of the survey population. The interviewees included the chairman of the Commission on Higher Education, the president of the South Carolina Technical College

System, a member of the South Carolina House of Representatives, a four-year public university president, a four-year private college president, and a technical college president. Participants in the interviews were asked for permission to record their interviews, which were expected to last 15 to 20 minutes. It was anticipated that most interviewees would give permission to be quoted. Interviewees who declined to be quoted for attribution were promised that care would be taken to avoid identifying the individual participant. Although the qualitative interviews were relatively free in form, the intent was to cover the following areas of interest:

1. quality of technical college students and faculty.
2. relative levels of state funding for technical colleges, 4-year colleges and universities, and P-12.
3. relationships between the technical colleges and the four-year universities, including articulation of courses and cooperation in attracting new industries.
4. performance of the technical colleges in providing technical, remedial and transfer education.

Results were coded and organized into categories based on commonalities in responses. The conclusions are triangulated against the quantitative findings.

Significance of the Study

For several years, the South Carolina General Assembly has been providing a declining share of funding for the technical colleges. In 1991, the State of South Carolina provided 64% of technical college funding; by 2002, the percentage had declined to 50.5% (*Factbook*, 2002). If public officials have a poor image of technical colleges, they will be less inclined to recognize the colleges' contributions to higher education. In turn, those officials who control the purse strings will be less willing to provide funds.

United States two-year colleges are already in a revenue pinch not unique to South Carolina. The national downward trend in state funding was confirmed by Merisotis and Wolanin (1997), who report that state support of community colleges was 70% of total revenues in 1980, but only 50% in 1996. (It is possible that these reported reductions in funding percentages are the result of increases in Federal funding and in successful exploration by the community colleges of other funding opportunities, such as local donations.)

CHAPTER IV

FINDINGS

Purpose of the Study

The objective of this study is to determine the image of South Carolina's technical colleges as seen by legislators and the presidents of South Carolina's colleges and universities, and to present suggestions for improving that image. Five primary research questions were analyzed in this study. The findings and analysis are discussed in the following order: the population surveyed, data collection, analysis of data supporting the five hypotheses, summaries of strengths and weaknesses, summaries of the six interviews, and findings from other research.

The Population

The survey instrument was mailed to all 170 legislators, and to all of the 60 South Carolina college and university presidents on a list furnished by the South Carolina Commission on Higher Education. Before mailing, the list of legislators was updated through the General Assembly web site. (There were two resignations and one death during the year.) The list of college presidents was also updated for three reported changes.

Data Collection

The responses to the survey are summarized in Table I. In order to assure proper classification of responses, the survey instruments were printed on distinctively colored

Table I. Survey Responses

Group Description	Total Surveys	Total Responses		Good Responses	
		Number	Percent	Number	Percent
Senators	46	17	37	6	13
House Members	124	29	23	18	15
Presidents of:					
Public Colleges & Universities	17	11	65	8	47
Private Colleges & Universities	27	13	48	11	41
Technical Colleges	16	13	81	8	50
Totals	230	83	36	51	22

paper. Of the 13 responses from technical college presidents, three of the respondents checked the category for presidents of two-year public colleges, instead of the separate category for technical college presidents. One president identified himself as head of a research university. (The listings provided by the CHE did not have a separate category for research universities.)

The attempts to obtain letters of support to accompany the survey instrument were not entirely successful. The original goal was to obtain separate letters from a senator, a representative, a technical college president, and a four-year university president. For different reasons, only the letters from a senator and a technical college president were available to be mailed with the survey instrument.

Three of the returned survey instruments were rejected because the respondents had apparently misread the scale by answering “Strongly Disagree” to Questions 6 through 20, but answered “Strongly Agree” to Questions 21 through 29. Questions 6

through 20 utilized a Likert scale beginning with “Strongly Disagree;” through an error on the part of the researcher, however, Questions 21 through 29 began with “Strongly Agree.” A total of 14 survey instruments were rejected because the respondents failed to notice the reversal of scale. Twelve of the 14 rejections for this purpose were returned by legislators. An additional 15 survey instruments were rejected due to missing data.

Four of the eight African-American senators (50%) responded to the survey, but only two of the 24 African-American representatives (8%) responded. Among technical colleges, nine of the 10 male technical college presidents (90%) responded, whereas four of the six female presidents (67%) responded.

The best response rate came from the technical college presidents; this was likely attributable to the letter of support from one of their colleagues. This president not only provided a letter to be included with the survey instrument, but she also emailed her colleagues as to the importance of the survey and the need for all 16 technical college presidents to respond. The result was an 81% response (13 out of 16) from the technical college presidents.

One senator wrote to say his policy was not to respond to surveys, and one university president indicated that he was so new to the state that he did not feel able to contribute to the study.

Survey Reliability

Cronbach’s Alpha was run for three question groups. The results are:

Knowledge	Questions 6-15	0.94,
Roles	Questions 16-19	0.94,
Characteristics	Questions 21-29	0.92.

According to Carmine and Zeller (1979), a Cronbach's alpha of 0.8 is considered highly reliable. The authors define reliability as "the extent to which an experiment, test, or any measurement procedure yields the same results on repeated trials (p. 11)."

The internal consistency of the scale is further verified by the Kaiser-Meyer-Olkin Measure of Sampling Adequacy of 0.619, which was produced by the factor analysis. According to Field (2005), "A value close to 1 indicates that...factor analysis should yield distinct and reliable factors." Field further cites Kaiser as recommending "accepting values greater than 0.5 as barely acceptable" (p. 640), with 0.5 to 0.7 as "mediocre."

Data Analysis

Field (2005) describes factor analysis as a "technique for identifying groups or clusters of variables" (p. 609). Factors were extracted from the data in this study using principal components analysis and oblique (or oblimin) rotation. Oblique rotations maintain the natural correlations among factors. Factor scores were generated and used as dependent variables in MANOVA analyses, thus the correlation among variables was needed. Five factors were identified:

1. quality of students and faculty,
2. attitudes about university and P-12 funding,
3. understanding of benefits to communities and businesses,
4. personal experiences with technical colleges, and
5. awareness of programs and services of technical colleges.

All analyses were performed using SPSS 14.0.

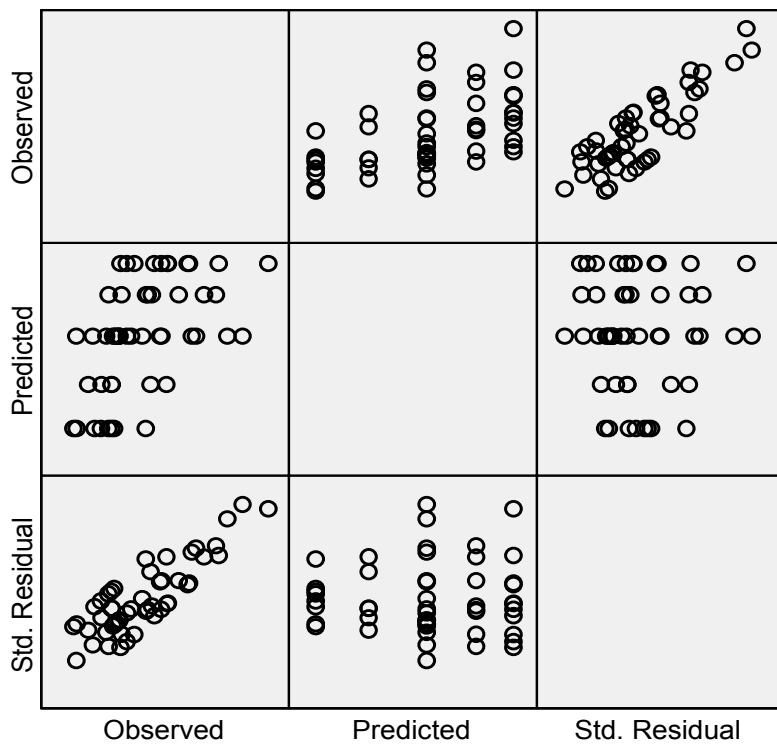
The factor scores for the survey were then compared across respondent types. Two MANOVAs were conducted with different groupings of respondents. One analyzed

all three groups identified by the survey: Legislators, public and private college and university presidents (“Other Presidents”), and technical college presidents. In the other MANOVA, these three groups were further divided into five groups: Senators, House members, public college and university presidents, private college and university presidents and Technical College Presidents. The first analysis reported below compared the responses of Legislators, Other Presidents, and Technical College Presidents on the three factors identified in the factor analysis; this analysis was used to test Hypotheses 1 and 2. The second analysis below tested differences across all five groups on the five factors. This analysis was used to test Hypotheses 3-5. Post hoc analyses were run in both analyses to identify specific sources of differences.

Box’s test of equality for both MANOVA analyses indicates that the covariance matrices were not equal, which is a violation of the assumptions underlying MANOVA. There is apparently no solution to this problem, and it means that results are not entirely accurate.

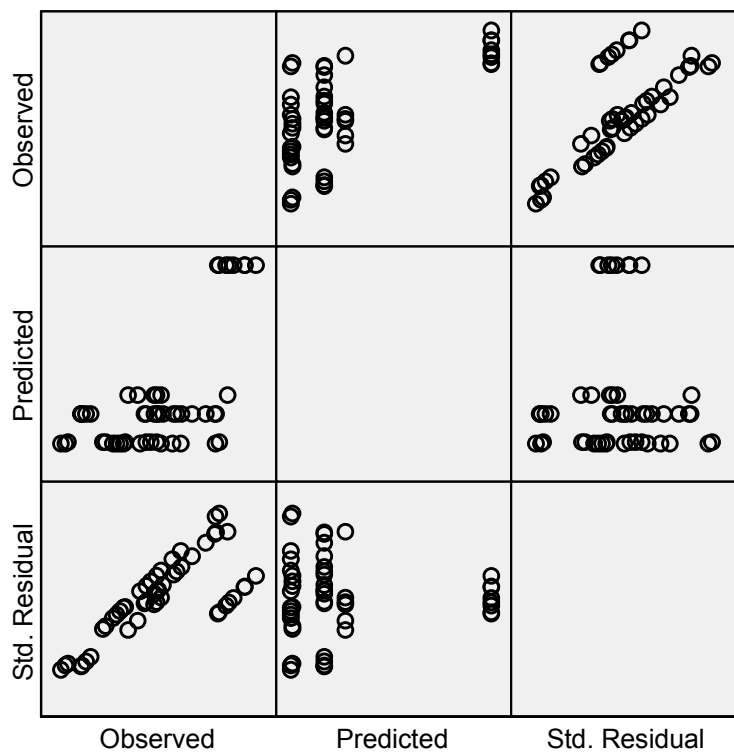
Residual analysis of the first MANOVA (with three classes of respondents) revealed no evidence of nonlinearity or heteroscedasticity (major assumptions that SPSS tests for), but there was evidence of heteroscedasticity in the second MANOVA on Factors 4 and 5. Logarithmic and square root transformations were not possible because of negative values in these factors; an inverse transformation was created but nonsingular cells were the result. The heteroscedasticity was not extreme (see Figures 1 and 2), so untransformed data was used.

Dependent Variable: REGR factor score 4 for analysis 1



Model: Intercept + Cat_rev

Figure 1. Scatterplot for Factor 4 Data; Heteroscedasticity Revealed as a Funnel Shape Distribution in Lower Left Quadrant

Dependent Variable: REGR factor score 5 for analysis 1

Model: Intercept + Cat_rev

Figure 2. Scatterplot for Factor 5 data; heteroscedasticity revealed as a funnel shape distribution in lower left quadrant.

The overall MANOVA analysis for Hypotheses 1 and 2 (for three groups, Technical College Presidents, Other College Presidents, and Legislators) revealed significant differences across groups ($p \leq 0.000$, Wilks' Lambda; see Table II).

Table II. Multivariate Test of Overall Differences among Three Groups

Effect		Value	F	Hypothesis df	Error df	Sig.	Observed Power ^a
Intercept	Pillai's Trace	0.163	1.708 ^b	5.0	44.0	0.153	0.536
	Wilks' Lambda	0.837	1.708 ^b	5.0	44.0	0.153	0.536
	Hotelling's Trace	0.194	1.708 ^b	5.0	44.0	0.153	0.536
	Roy's Largest Root	0.194	1.708 ^b	5.0	44.0	0.153	0.536
LegPres	Pillai's Trace	1.006	9.102	10.0	90.0	0.000	1.000
	Wilks' Lambda	0.231	9.498 ^b	10.0	88.0	0.000	1.000
	Hotelling's Trace	2.299	9.886	10.0	86.0	0.000	1.000
	Roy's Largest Root	1.694	15.250 ^c	5.0	45.0	0.000	1.000

^a Computed using alpha = 0.05.

^b Exact statistic.

^c The statistic is an upper bound on F that yields a lower bound on the significance level.

^d Design: Intercept+LegPres.

The analysis of between subject effects (Table III) indicated that the differences were on Factors 1, quality of students and faculty; 4, personal experiences with technical colleges; and 5, awareness of programs and services of technical colleges. Consequently, post hoc analyses were only performed on these three factors.

The post hocs provided specific results for Hypotheses 1 and 2; they are reported below. The Levene's test of equality of variances (Table IV) was analyzed to determine

Table III. Tests of Between-Subjects Effects for Three Independent and Five Dependent MANOVA

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Observed Power ^a
Corrected Model	Factor 1	22.794 ^b	2	11.397	20.108	0.000	1.000
	Factor 2	3.340 ^c	2	1.670	1.718	0.190	0.343
	Factor 3	5.120 ^d	2	2.560	2.738	0.075	0.516
	Factor 4	12.267 ^e	2	6.133	7.802	0.001	0.939
	Factor 5	20.604 ^f	2	10.302	16.821	0.000	1.000
Intercept	Factor 1	0.004	1	0.004	0.007	0.934	0.051
	Factor 2	0.425	1	0.425	0.437	0.512	0.099
	Factor 3	0.673	1	0.673	0.720	0.400	0.132
	Factor 4	1.047	1	1.047	1.332	0.254	0.205
	Factor 5	3.311	1	3.311	5.407	0.024	0.625
Categories of respondents,	Factor 1	22.794	2	11.397	20.108	0.000	1.000
Clustered into three groups	Factor 2	3.340	2	1.670	1.718	0.190	0.343
	Factor 3	5.120	2	2.560	2.738	0.075	0.516
	Factor 4	12.267	2	6.133	7.802	0.001	0.939
	Factor 5	20.604	2	10.302	16.821	0.000	1.000

Table IV. Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
Factor 1	4.431	2	48	0.017
Factor 4	1.591	2	48	0.214
Factor 5	2.900	2	48	0.065

^aTests the null hypothesis that the error variance of the dependent variable is equal across groups. Factors 2 and 3 are excluded because of their lack of significance in the test of between-subjects effect (Table III).

which post hoc test was appropriate for the data. It revealed that the variances across groups for Factor 1 were significantly different (a statistically significant Levene's test — $p \leq .05$ —indicates unequal variance); consequently the Games-Howell post hoc analysis, which adjusts for unequal variances yet balances Type I and Type II errors, was used for this analysis. Field (2005) cites Games-Howell as also “accurate where sample sizes are unequal” (p. 341). The Tukey post hoc was used for Factors 4 and 5 ($p \geq .05$, thus equal variances) because of its appropriateness for equal variances and its ability to balance Type I and Type II errors.

Hypothesis 1

Hypothesis 1: There are significant differences between the perceptions of legislators and other college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

Significant differences between the perceptions of the legislators and the other college and university presidents were found for Factor 1, quality of students and faculty, and on Factor 4, personal experiences with technical colleges (see Table V). The mean response for Legislators on Factor 1 (quality of students and faculty) was higher than that

Table V. Post Hocs for Three Independent and Five Dependent Variables

Dependent Variable		(I) Legislators and Presidents	(J) Legislators and Presidents	Mean Difference (I-J)	Std. Error	Sig.
Factor 1	Games-Howell	Legislators	Colleges or Universities	1.449 ^a	0.25	0.000
			Technical Colleges	0.26	0.27	0.601
		Colleges/Universities	Legislators	-1.44 ^a	0.25	0.000
			Technical Colleges	-1.17 ^a	0.32	0.005
		Technical Colleges	Legislators	-0.26	0.27	0.601
			Colleges or Universities	1.17 ^a	0.32	0.005
Factor 4	Tukey HSD	Legislators	Colleges or Universities	-0.67 ^a	0.27	0.044
			Technical Colleges	0.76	0.36	0.103
		Colleges/Universities	Legislators	0.67 ^a	0.27	0.044
			Technical Colleges	1.43 ^a	0.37	0.001
		Technical Colleges	Legislators	-0.76	0.36	0.103
			Colleges or Universities	-1.43 ^a	0.37	0.001
Factor 5	Tukey HSD	Legislators	Colleges or Universities	0.36	0.24	0.302
			Technical Colleges	-1.53 ^a	0.326	0.000
		Colleges/Universities	Legislators	-0.36	0.24	0.302
			Technical Colleges	-1.89 ^a	0.33	0.000
		Technical Colleges	Legislators	1.53 ^a	0.32	0.000
			Colleges or Universities	1.89 ^a	0.33	0.000

^aMean difference significant, $p < .05$.

for other presidents; the mean of Other Presidents on factor 4 (personal experience) was higher than that for legislators (see mean differences column in Table V). These findings for Factor 1 are consistent with the qualitative comments from other presidents (reported below), such as: “students are not as well prepared,” “poor quality academic offerings,” and “quality of faculty is weak.” Hypothesis 1 is supported for Factors 1 and 4.

Hypothesis 2

Hypothesis 2: There are significant differences between the perceptions of the technical college presidents and legislators regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

There are no differences between Technical College Presidents and Legislators on Factor 1 ($p > .601$) or Factor 4 ($p > .103$). The difference for Factor 5 is significant ($p \leq .000$), and the mean response for Technical College Presidents is higher than that for Legislators. This is predictable given the close association of Technical College Presidents with the services of their institutions. Hypothesis 3 is supported for Factor 5.

The Second MANOVA

The second MANOVA was run to produce analyses for Hypotheses 3, 4 and 5. The Tests of Between-Subjects Effects (Table VI) indicated that there were significant differences among the five groups for all five factors.

The Levene's Test of Equality of Variances (Table VII) indicated that the variances across groups were significantly different for Factor 2, attitudes about university and P-12 funding; and Factor 3, understanding of benefits to communities and businesses; thus, the Games-Howell post hoc analysis was used. The Tukey post hoc analysis was used for Factors 1, 4, and 5.

Hypothesis 3

Hypothesis 3: There are significant differences between the perceptions of the technical college presidents and public college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

Table VI. Tests of Between-Subjects Effects for Five Independent and Five Dependent Variables

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Factor 1	22.813 ^a	4	5.703	9.649	0.000
	Factor 2	12.869 ^b	4	3.217	3.986	0.007
	Factor 3	9.220 ^c	4	2.305	2.600	0.048
	Factor 4	13.596 ^d	4	3.399	4.295	0.005
	Factor 5	20.785 ^e	4	5.196	8.182	0.000
Intercept	Factor 1	0.092	1	0.092	0.156	0.695
	Factor 2	0.348	1	0.348	0.431	0.515
	Factor 3	0.536	1	0.536	0.605	0.441
	Factor 4	0.211	1	0.211	0.266	0.608
	Factor 5	0.260	1	0.260	0.410	0.525
Categories of respondents	Factor 1	22.813	4	5.703	9.649	0.000
	Factor 2	12.869	4	3.217	3.986	0.007
	Factor 3	9.220	4	2.305	2.600	0.048
	Factor 4	13.596	4	3.399	4.295	0.005
	Factor 5	20.785	4	5.196	8.182	0.000

^a $R^2 = 0.456$ (Adjusted $R^2 = 0.409$).

^b $R^2 = 0.257$ (Adjusted $R^2 = 0.193$).

^c $R^2 = 0.184$ (Adjusted $R^2 = 0.113$).

^d $R^2 = 0.272$ (Adjusted $R^2 = 0.209$).

^e $R^2 = 0.416$ (Adjusted $R^2 = 0.365$).

Table VII. Levene's Test of Equality of Variances^a

	F	df1	df2	Sig.
Factor 1	2.269	4	46	0.076
Factor 2	2.993	4	46	0.028
Factor 3	3.965	4	46	0.008
Factor 4	1.107	4	46	0.364
Factor 5	2.023	4	46	0.107

^aTests the null hypothesis that the error variance of the dependent variable is equal across groups.

Differences between technical college presidents and public college and university presidents were revealed for Factor 1, quality of faculty and students ($p \leq .050$); Factor 3, understanding of benefits to communities and businesses ($p \leq .050$); and Factor 5, awareness of programs and services of technical colleges ($p \leq .000$). For Factors 1, 3 and 5, the mean responses of the technical college presidents were greater than for public residents. Factor 1 (quality of students and faculty) differences are supported by comments from the public college and university presidents: "students are not as well prepared," "poor quality academic offerings," and "quality of faculty is weak." Differences on Factors 3 and 5 would appear to arise as a natural result of the closeness that technical college presidents should have with their own institutions. Hypothesis 3, then, is supported for Factors 1, 3 and 5.

Hypothesis 4

Hypothesis 4: There are significant differences between the perceptions of the technical college presidents and the private college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

The comparisons of the technical college presidents and private college and university presidents displayed statistically significant differences in Factor 3, understanding of benefits to communities and businesses; Factor 4, personal experience with technical colleges; and Factor 5, awareness of programs and services of technical colleges. These differences would appear to be an expected consequence of the respondents' respective positions in technical and private education. Hypothesis 4 is supported for Factors 3, 4 and 5.

Hypothesis 5

Hypothesis 5: There are significant differences between the perceptions of the members of the Senate and members of the House regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

The post hoc analyses indicated a statistically significant difference in the perceptions of members of the Senate and the House only in Factor 3, understanding of benefits to communities and businesses ($p \leq .050$) (Table VIII). This difference may be attributed to the length of service of the respondents. Four of the 11 Senators reported having served more than 20 years, whereas only two of the 22 representatives reported General Assembly service in excess of 15 years. Hypothesis 5, therefore, is supported only for Factor 3.

Table VIII. Post Hoc Comparisons for Five Groups and Five Factors (Dependent Variables)

Dependent Variable		(I) Rev Respondent Categories	(J) Rev Respondent Categories	Mean Difference (I-J)	Std. Error	Sig.
Factor 1	Tukey HSD	State Senator	State Representative	0.06	0.36	1.000
			4-yr public coll pres	1.49 ^a	0.42	.007
			4-yr priv coll pres	1.47 ^a	0.39	.004
			TC President	0.31	0.42	.945
		State Representative	State Senator	-0.06	0.36	1.000
			4-yr public coll pres	1.43 ^a	0.33	.001
			4-yr priv coll pres	1.41 ^a	0.29	.000
			TC President	0.25	0.33	.940
		4-yr public coll pres	State Senator	-1.49 ^a	0.42	.007
			State Representative	-1.43 ^a	0.33	.001
			4-yr priv coll pres	-0.02	0.36	1.000
			TC President	-1.19 ^a	0.38	.027
		4-yr priv coll pres	State Senator	-1.47 ^a	0.39	.004
			State Representative	-1.41 ^a	0.29	.000
			4-yr public coll pres	0.02	0.36	1.000
			TC President	-1.16 ^a	0.36	.017
		TC President	State Senator	-0.31	0.42	.945
			State Representative	-0.25	0.33	.940
			4-yr public coll pres	1.19 ^a	0.38	.027
			4-yr priv coll pres	1.16 ^a	0.36	.017
Factor 2	Games-Howell	State Senator	State Representative	-0.63	0.28	0.184
			4-yr public coll pres	0.52	0.25	0.290
			4-yr priv coll pres	-0.77	0.26	0.069
			TC President	-1.00	0.53	0.399
		State Representative	State Senator	0.63	0.28	0.184
			4-yr public coll pres	1.15 ^a	0.29	0.006
			4-yr priv coll pres	-0.14	0.30	0.991
			TC President	-0.36	0.55	0.962
		4-yr public coll pres	State Senator	-0.52	0.25	0.290
			State Representative	-1.15 ^a	0.29	0.006
			4-yr priv coll pres	-1.29 ^a	0.28	0.002
			TC President	-1.52	0.54	0.114
		4-yr priv coll pres	State Senator	0.77	0.26	0.069
			State Representative	0.14	0.30	0.991
			4-yr public coll pres	1.29 ^a	0.28	0.002
			TC President	-0.23	0.55	0.993
		TC President	State Senator	1.00	0.53	0.399
			State Representative	0.36	0.55	0.962
			4-yr public coll pres	1.52	0.54	0.114
			4-yr priv coll pres	0.23	0.55	0.993

Table VIII. Post Hoc Comparisons for Five Groups and Five Factors (Dependent Variables) (Continued)

Factor 3	Games-Howell	State Senator	State Representative	0.94 ^a	0.31	0.048
			4-yr public coll pres	1.09 ^a	0.28	0.032
			4-yr priv coll pres	0.94 ^a	0.27	0.034
			TC President	0.05	0.07	0.953
		State Representative	State Senator	-0.94 ^a	0.31	0.048
			4-yr public coll pres	0.14	0.41	0.996
			4-yr priv coll pres	-0.01	0.40	1.000
			TC President	-0.90	0.31	0.065
		4-yr public coll pres	State Senator	-1.09 ^a	0.28	0.032
			State Representative	-0.14	0.41	0.996
			4-yr priv coll pres	-0.15	0.38	0.994
			TC President	-1.04 ^a	0.28	0.040
		4-yr priv coll pres	State Senator	-0.94 ^a	0.27	0.034
			State Representative	0.01	0.40	1.000
			4-yr public coll pres	0.15	0.38	0.994
			TC President	-0.89 ^a	0.27	0.045
TC President	State Senator	-0.05	0.07	0.953		
	State Representative	0.90	0.31	0.065		
	4-yr public coll pres	1.04 ^a	0.28	0.040		
	4-yr priv coll pres	0.89 ^a	0.27	0.045		
Factor 4	Tukey HSD	State Senator	State Representative	-0.45	0.42	0.814
			4-yr public coll pres	-0.84	0.48	0.411
			4-yr priv coll pres	-1.14	0.45	0.104
			TC President	0.41	0.48	0.909
		State Representative	State Senator	0.45	0.42	0.814
			4-yr public coll pres	-0.39	0.38	0.841
			4-yr priv coll pres	-0.68	0.34	0.281
			TC President	0.87	0.38	0.164
		4-yr public coll pres	State Senator	0.84	0.48	0.411
			State Representative	0.39	0.38	0.841
			4-yr priv coll pres	-0.29	0.41	0.953
			TC President	1.26	0.44	0.051
		4-yr priv coll pres	State Senator	1.14	0.45	0.104
			State Representative	0.68	0.34	0.281
			4-yr public coll pres	0.29	0.41	0.953
			TC President	1.55 ^a	0.41	0.004
TC President	State Senator	-0.41	0.48	0.909		
	State Representative	-0.87	0.38	0.164		
	4-yr public coll pres	-1.26	0.44	0.051		
	4-yr priv coll pres	-1.55 ^a	0.41	0.004		

Table VIII. Post Hoc Comparisons for Five Groups and Five Factors (Dependent Variables) (Continued)

Factor 5	Tukey HSD	State Senator	State Representative	0.20	0.38	0.983
			4-yr public coll pres	0.50	0.43	0.771
			4-yr priv coll pres	0.52	0.40	0.707
			TC President	-1.38 ^a	0.43	0.020
		State Representative	State Senator	-0.20	0.38	0.983
			4-yr public coll pres	0.30	0.34	0.900
			4-yr priv coll pres	0.32	0.30	0.838
			TC President	-1.58 ^a	0.34	0.000
		4-yr public coll pres	State Senator	-0.50	0.43	0.771
			State Representative	-0.30	0.34	0.900
			4-yr priv coll pres	0.01	0.37	1.000
			TC President	-1.88 ^a	0.40	0.000
		4-yr priv coll pres	State Senator	-0.52	0.40	0.707
			State Representative	-0.32	0.30	0.838
			4-yr public coll pres	-0.01	0.37	1.000
			TC President	-1.90 ^a	0.37	0.000
		TC President	State Senator	1.38 ^a	0.43	0.020
			State Representative	1.58 ^a	0.34	0.000
			4-yr public coll pres	1.88 ^a	0.40	0.000
			4-yr priv coll pres	1.90 ^a	0.37	0.000

Strengths and Weaknesses

Of the 83 responses to the survey, 54 (65%) listed strengths and/or weaknesses for South Carolina's technical colleges. The individual comments were reviewed for consistency with the five factors identified through factor analysis. Table IX shows the numbers of comments that were related to a given factor, together with the numbers of comments that did not appear to be directly connected to a particular factor ("miscellaneous").

Comments Related to Various Factors

Factor 1—Quality of Students and Faculty

The two positive comments relative to Factor 1 came from a legislator; "Academic strong." and "Faculty (most) have 'real world experience' and brings that to

Table IX. Summary of Strength and Weakness Comments by Factor Statements of Strengths

	Legislators	Other College Presidents	Technical College Presidents	Totals
1. Quality of students and faculty	2	0	0	2
2. Attitudes about university and P-12 funding	0	0	0	0
3. Understanding of benefits to communities and business	62	29	33	124
4. Personal experiences with technical colleges	0	0	0	0
5. Awareness of programs and services of technical colleges	0	0	0	0
Miscellaneous	0	4	1	5
Totals	64	33	34	131
Statements of Weakness				
1. Quality of students and faculty	5	5	0	10
2. Attitudes about university and P-12 funding	0	0	0	0
3. Understanding of benefits to communities and businesses	0	0	0	0
4. Personal experiences with technical colleges	6	2	9	17
5. Awareness of programs and services of technical colleges	5	3	0	8
Miscellaneous	17	17	18	52
Totals	33	27	27	87
Number of responses with comments	26	16	12	54

the classroom.” The 10 negative comments included eight relating to poor quality of faculty or too many part-time faculty, plus two others

“Their students are not as well prepared.”

“In some tech schools, the reputation of being a lesser school still exists.”

The technical colleges were often cited as not cooperating with the four-year colleges and universities, especially in articulation. In response to Question 28 on the survey instrument, “The South Carolina Technical College System has a well-regarded system of articulation with the four-year universities,” the scores, by group, were:

Technical colleges	2.6
Legislators	2.9
Public presidents	2.6
Private presidents	2.7

1 = Strongly Agree; 5 = Strongly Disagree

These ratings, which are relatively low on the five-point scale, indicate a need to improve articulation with the four-year universities.

Factor 2—Attitudes about University and P-12 Funding

There were no comments relating to this factor.

Factor 3—Understanding of Benefits to Communities and Businesses

The 124 comments about Factor 3—all stated as strengths—were placed in three groups, as follows:

Comments re some aspect of technical training	
Good technical training	28
Helps recruit industry	11
Meets needs of business and industry	<u>12</u> <u>51</u>
Comments re some aspect of training for college credit	
Medical training	1
Distance education network	1
Preparation for advancement to a 4-year institution	<u>1</u> <u>3</u>
Neutral as to curriculum	
Good reputation	6
Affordable	17
Flexible, innovative, adaptable	23
Accessible, convenient	20
Other	<u>4</u> <u>70</u>
Total	<u>124</u>

The heavy number of responses relative to training would appear to indicate that the term “technical college” reminds most of the respondents about technical training, not college training.

Factor 4— Personal Experiences with Technical Colleges

All of the comments relate to this factor deal with lack of adequate funding.

Three of the comments are presented here:

From a Senator: Must compete annually on an uneven playing field w/ senior institutions for funding.

From a House member: The alumni associations and administrations of Clemson, USC and MUSC will never allow the TEC system to receive the legislative appropriations to which the TEC system is entitled, and which the citizens of S. C. strongly support

From a technical college president: Enrollment growth must be funded if the colleges are to maintain their position in the education continuum. Due to funding issues, tuition increases are going to cause the open door to slowly close.

Factor 5—Awareness of Programs and Services of Technical Colleges

Three of the stated weaknesses in Factor 5 related to the nursing program—lack of diversity in the program (and also in engineering), need for a full nursing program, need better coordination with workforce needs. Other comments related to skill testing placing limits on access to some programs, “somewhat fragmented system,” “need for higher enrollment opportunities,” and “need expanded campuses.”

Miscellaneous Comments

“Highly successful in bastardizing the baccalaureate degree,” was the comment listed by a four-year university president in his survey response as a strength of the tech-

nical colleges. The survey respondents offered other comments that tend to indicate important differences in the perceptions of technical colleges: Other strengths:

From a technical college president: “The fact that it (is) a system of 16 colleges situated statewide gives it considerable clout—not always optimized.”

From a public university president: “Highly political and well oil(ed) machine.”

From another public university president: “Market well” and “Strong network.”

The weaknesses most often cited are:

They want to be community colleges; they are ignoring technical training	12
They should be community colleges	5
Lack or don't use clout; poor support from public officials	7
Poor articulation; poor cooperation with 4-year universities	6
Viewed poorly by 4-year universities; bad image	5
Poor state organization	3
All other	<u>14</u>
Total	52

Interviews

After the survey was complete, interviews were conducted with the following six individuals:

Dr. Layton McCurdy, Chairman of the South Carolina Commission on Higher Education (CHE)

Dr. Barry Russell, President of the South Carolina Technical College System

Hon. William F. Cotty, Member of the South Carolina House of Representatives

Dr. Anne Crook, President of Orangeburg-Calhoun Technical College

Dr. Mitchell Zais, President of Newberry College, and a non-voting member of the CHE, representing private colleges and universities

A president of a four-year public university, who requested not to be quoted for attribution.

Patton (2002) recommends triangulation of the data obtained by different methods from different sources. He adds, “(U)nderstanding inconsistencies in findings across

different kinds of data can be illuminative and important” (p. 556). A degree of triangulation for these qualitative results is provided by the quantitative analyses (particularly the factor analyses)—and the qualitative findings provide illumination and triangulation of the quantitative results.

Although the qualitative interviews were relatively free in form, attempts were made to cover the following areas of interest in each interview:

1. Quality of technical college students and faculty.
2. Relative levels of state funding for technical colleges, four-year colleges and universities, and P-12.
3. Relationships between the technical colleges and the four-year universities, including articulation of courses and cooperation in attracting new industries.
4. Performance of the technical colleges in providing technical, remedial and transfer education.

In most interviews, even though the researcher reminded the interviewee of the promised 20-minute limit, the discussions ran often as much as an hour.

Many—often conflicting—opinions were voiced by the interviewees. The comments were coded for major topics or issues, and are summarized accordingly here. The issues cover a wide range of subjects; they can be categorized as faculty qualifications, state funding and control, cooperation among institutions, perceptions about the value of education in various contexts, perceptions of technical colleges, the scope of higher education in the state, and technical versus community education.

Faculty Qualifications

Several interviewees offered comments about the qualifications of technical college faculty. Dr. Zais, a four-year private college president, described allegations that technical college faculty are not qualified as “intellectual snobbism.” “You don’t need a

PhD to teach auto body repair.” The four-year public president took the opposite view: “You can’t have unqualified people teaching high-level courses.” The president claimed that the local technical college offered advanced courses taught by an instructor with only a bachelor’s degree, and lacking the required graduate hours in the field, whereas the four-year universities are required to provide a professor with at least 18 graduate hours in that subject.

Dr. Crook reported that, at Orangeburg-Calhoun Technical College (OCTech), the most recent accreditation review by SACS revealed that all faculty members are fully qualified to teach their respective classes. Even the remedial instructors have master’s degrees; all have 18 graduate hours in the area of specialty. Many faculty members have PhDs, and efforts are being made to add more PhDs. The college has approximately 80% of its classes taught by full-time faculty--the highest percentage among South Carolina’s technical colleges.

The four-year public president contended that by granting credits in, say, English, through a course whose requirements have been watered down, the technical college is detracting from the real meaning of college credit and is doing the student a disservice. The four-year public president and Dr. Zais were in agreement that no one organization could offer both college transfer courses and technical education.

Dr. Crook and Dr. Russell, both from technical colleges, reported studies showing that students who earned associate degrees and transferred to four-year universities were more likely to complete the four-year degree than the students who had started at the four-year universities. Dr. Zais described the success of the State of California, which has utilized its community colleges to allow an enormous number of students to spend their

first two years at a community college before transferring to a four-year school. Representative Cotty felt that the computer-trained graduates of Midlands Technical College were better qualified than those who came out of the University of South Carolina.

State Funding and Control

According to Dr. McCurdy, the CHE chair, the appropriations to public universities and technical colleges are calculated by way of the MRR (Mission Resource Requirements) schedule; however, appropriations are currently below parity for the technical colleges. In addition to the provisions of the MRR formula, the individual institutions work to get “earmarks,” which are funding for special projects for the individual organizations that are successful.

In her interview, Dr. Crook, president of Orangeburg-Calhoun Technical College, referred to the MRR formula by which each institution is supposed to receive an amount defined as “parity,” based a number of different measures. Due to state budget cuts, technical colleges were receiving a much smaller percentage of parity than the other public colleges and universities. In the summer of 2005, according to Dr. Crook, there was a meeting of the chief financial officers of the South Carolina public colleges and universities, at which meeting all but one of the group agreed that the first state money available should go to restore funding parity for the technical colleges. After that meeting, however, at least six of the four-year universities received earmark funding, which otherwise would have helped to restore parity to the technical colleges. Dr. Crook felt that the earmarks were a violation of the agreement to work toward funding parity for the technical colleges.

As to overall control of public education, Dr. Zais, who represents private colleges on the CHE, declared, “The Commission on Higher Education is little more than a debating society.” He added, “We have two-year USC branches sharing a parking lot with a technical college. We have a General Assembly member saying ‘We need this place to be a four-year school, because our citizens can’t commute to Columbia.’ Next they want dormitories.” Dr. Zais continued by observing that the citizens who could not commute to Columbia could have stayed in the dormitories in Columbia. He continued by saying the power lies with the General Assembly, with every member for himself; but the General Assembly has not taken charge. Dr. Crook stated:

I believe we have one of the most disjointed systems of higher education in the United States. CHE is filled with alumni who advocate for their own schools. Most of the legislators are alumni of Carolina or Clemson, and they stick up for their schools. We have not been able to get a CHE who are independent of the big schools.

Representative Cotty, a graduate of the USC Law School, counters this view by saying, “(The University of South) Carolina doesn’t need any help.” Mr. Cotty has, for example, helped create a special “catch up” course in nursing at Midlands, where top students were put on a fast track, and were not made to endure a two-year waiting list. Midlands allows older (30+) people to go to school and work at the same time.

Dr. Zais says Kentucky and Florida have good central control over higher education, but, “Here in South Carolina, the legislators simply scratch each other’s backs.” Further, Dr. Zais maintains that no legislator or member of the CHE understands how budgets work.

You need someone with the power; the CHE are either all academics or citizens who volunteer their free time. There are no business vice presidents on that board. There is no one (on the CHE) who knows the business

of running a college, and running a college is a multimillion dollar business.

Dr. McCurdy said that the technical colleges have had the least inflation in tuition of any institutions of higher education in South Carolina. Dr. Crook declared that the technical colleges were being short-changed in funding, partly as a result of the earmarks sought from the General Assembly by many of the four-year universities. But Representative Cotty's observation on funding was, "I have never met an educator or a bureaucrat who thinks he has enough money."

Representative Cotty said it would be normal for a technical college in a community with no four-year school to try to meet that community's needs. He added that Midlands Technical College has plenty to do to be the two-year college it is, without trying to be a four-year school. Mr. Cotty felt that most legislators want to leave "technical" in the names of South Carolina's technical colleges. Then he commented that the decision to create USC two-year campuses "was not a very well-reasoned decision." Where the two-year USC campus is the only institution in town, Mr. Cotty asserts that it must function as a community college.

Dr. Crook commented that, if the then-expected Spartanburg name change resulted in an increase in enrollment (as some advocates contend), OCTech could lose some funding. (Dr. McCurdy, however, disagrees, saying the MRR formula would not allow such a reduction.) According to Dr. Crook, some of the other technical colleges have already indicated that they wish to remain technical colleges. Dr. Russell reported that at Southwestern Community College in North Carolina, which changed its name from "technical college" 20 years ago, locals still call it "Tech."

Dr. Russell, who, until January 1, 2006, was President of Midlands Technical College, did not feel strongly about the need for a name change. Although the technical colleges fill a multiple role, the early start in South Carolina was technical training. It has now gone from important to critical, meaning that the least-skilled need training in order to be able to get and hold good jobs. According to Dr. Russell, without continuing to teach technical skills, South Carolina will not be able to keep up with the needs of industry.

Cooperation between Technical Colleges and Other Colleges and Universities

Dr. McCurdy, Chairman of the CHE, remarked that there are claims that the technical colleges “don’t cooperate.” Dr. McCurdy further perceived that there is competition between the technical colleges and the four-year universities. Dr. Crook, President of OCTech, offered her view of competition: “There is friendly competition, unfriendly competition, and great collaboration between some (of the technical colleges and the four-year universities).” According to Representative Cotty, any unfriendly competition among the various public institutions of higher education is only competition for state dollars. Mr. Cotty gave an example of cooperation, where the research universities and the technical colleges worked out what each was capable of handling in a hydrogen cell project.

Two additional examples of collaboration were cited by Dr. Crook and Dr. Zais. Both USC and Clemson are now allowing students to enroll as freshmen at nearby technical colleges, and take part in university activities, with the provision that they be allowed to transfer to the university after successful completion of technical college

courses. Many students go to Midlands Technical College and participate in USC social activities, with the full intention of transferring to USC after two years. Clemson is reportedly allowing 200-600 students to live in Clemson student housing and attend Tri-County Technical College, all the time taking part in Clemson student activities. This appears to be a “win-win” situation which allows these students to make an easy transfer to Clemson University. But because the SAT scores of transfer students with more than 30 hours of credit do not have to be included in the Clemson records for incoming freshmen, Dr. Zais, President of Newberry College, offers the opinion that this program is a way for the four-year university to keep up the average SAT of its incoming freshmen, thereby making their *US News* statistics look better.

Dr. Crook also cited the collaboration involving the nursing program at Orangeburg-Calhoun Technical College; she proudly reported that 100% of the college’s graduates over the last two years have passed the nurse’s licensing examination. Graduates of the nursing program may continue to earn credits toward a BS in nursing, under a collaboration agreement with USC-Upstate.

Dr. McCurdy commented that all of the higher education institutions are working on articulation. He also said that one study showed that those students who got a two-year degree and went on to a four-year university had a higher graduation rate than the students who started in the four-year universities.

Regarding articulation, Dr. Zais indicated that there are bound to be differences among schools as to quality of courses. He felt that each school should be the judge of what courses it wishes to accept from two-year colleges, except that the state’s four-year

regional colleges should be required to accept courses taken at a South Carolina technical college.

According to Dr. Russell, President of South Carolina Technical College System, 84 courses are on the CHE list for guaranteed transfer to four-year public universities (*Transfer guide*, 2006). In Florida, the General Assembly has mandated a level of articulation which, Dr. Russell believes, means that articulation is no longer a problem in that state.

Dr. Crook reports that only 10-13% of the students at OCTech plan to transfer, and about 75% of those succeed in obtaining their four-year degrees. Dr. Russell regards the technical colleges as the gateway to higher education. He cited an attorney at a prestigious law firm, who began college at Midlands Technical College. Like many others, the attorney was able to handle the technical college courses, and subsequently went on to graduate from law school.

According to Dr. McCurdy, recognition has been given to the technical colleges by virtually restricting the awarding of associate degrees to the technical colleges and the USC two-year campuses.¹ Some four-year presidents contend that the technical colleges all want to be four-year colleges. Dr. Crook explained that this contention may have arisen when Johnson & Wales University, a private university specializing in culinary arts, chose to close its Charleston campus. After The Citadel and the College of Charleston declined the offer to take over the culinary arts program, Charleston legislators asked

¹ A report by Dr. Vermelle Johnson (2006) confirmed that, in 2004, 1,650 AA degrees were awarded in South Carolina. Only 85 of these (5%) were awarded by four-year USC branches. The remainder of the AA/AS degrees were awarded by technical colleges or two-year branches of the University of South Carolina.

if Trident Technical College would take it. The acceptance by Trident officials was made on the basis of helping the community, but it created a firestorm from four-year universities. On October 7, 2004, the South Carolina Commission on Higher Education voted to deny permission for Trident Technical College to offer a four-year degree in culinary arts (South Carolina Commission on Higher Education. 2004). Dr. Crook does not believe that there is any significant push by other technical colleges to offer four-year degrees.

The Value of an Education

Dr. Zais, a four-year private college president, stated that most high school guidance counselors are likely to tell a student, “You are much too smart to be an auto mechanic. You need to go to college.” Yet, the student with a talent for auto mechanics may well make a lot more money than he/she would by going to college. Dr. Zais referred to recent summaries showing the average teacher was earning \$38,000 per year, as compared with the average earnings for an HVAC-trained person of \$62,000 per year.

According to Dr. Crook, only 20% of jobs require a four-year degree, but there is a tendency to expect everyone to work toward a four-year degree. Dr. Crook said that, beginning at the end of World War II, parents expected their children to finish college, without necessarily thinking what they would do after graduation. Dr. Zais added that guidance counselors offer their advice to seek four-year degrees “because they are in academia.” Rosenfeld (2004) further defines the challenge facing the South Carolina labor force: “In today’s labor market, 85% of employees need an education beyond high school” (p. 1). Rosenfeld points out that 40% of South Carolinians lack the skills to be part of that 85%, leaving a tremendous challenge for higher education in our state.

Dr. McCurdy, CHE Chairman, confirmed, “I have nothing but good things to say about the (Technical College) System.” He also agreed with the technical college president’s survey response to the effect that the technical colleges have a lot of clout, but they don’t use it.

An interesting trend was pointed out by Dr. Crook and Dr. Russell, both technical college presidents: In the technical colleges state-wide, one-fourth of new students already have bachelor’s degrees, but they are coming back to school to get a job. As one example at OCTech, 30% of new nursing students have a four-year degree, and some even have master’s degrees.

Representative Cotty was concerned over the level of need for remedial education. He felt that the educational system was paying twice for much of the remedial education that was being provided. Mr. Cotty’s view coincides with the problem cited by Dr. McCurdy that, “K-12 is the weakest part of our educational system right now.” Another area covered was the perceptions of the technical colleges as viewed by legislators and other college and university presidents.

Perceptions of the Technical Colleges

Dr. Russell admitted that the technical colleges are “prestige challenged.” Dr. Zais cited the perception by some high school guidance counselors that “a technical college is only for those who are too stupid to go to college.”

When he was asked what he saw as the worst perceptions of the technical college system, Dr. Russell indicated that very few people in state leadership have come through the technical college system, so they do not appreciate the system’s objectives. “We are still grappling with how to present ourselves. It is a marketing issue for the technical

college system.” He sees the need for a “better job of marketing” for the technical colleges. Dr. Russell countered the view by some scholars that the two-year colleges keep the lower classes “in their place,” by saying he believes the system keeps a student’s options open, as compared with “the European view that pretty much locked a person into a hereditary career limit.”

The four-year university president expressed the desire that the local technical college stick to technical training and work on improving the quality of remedial education. This president also commented that the local technical college is not handling remedial work well, and that the college does not offer courses of college-level quality in some areas.

The statement that the technical colleges were “highly successful in bastardizing the baccalaureate degree” brought two different interpretations. Dr. Zais offered this meaning: “The comment comes from an academic elitist who thinks that baccalaureate degrees should only be given to people who enroll in four-year colleges and stay there.” The other interpretation was that the technical colleges, by offering technical courses leading to jobs which might pay better than some requiring a bachelor’s degree, were detracting from the prestige of obtaining and holding a college degree.

Number of Public Colleges and Universities in South Carolina

According to the four-year university president who was interviewed, “We have enough four-year public universities to cover the state. We are not big enough as a state to fund technical colleges with transfer courses and the four-year universities also.” The president cited the problem in another southern state with a possible excess of community

colleges, where, in the president's opinion, the four-year institutions have suffered because education funding has been diverted to the two-year colleges. Further, this president claimed that the technical colleges are all aspiring to be four-year schools. "In a small state such as ours, what we have created is a duplicating system."

According to Representative Cotty,

All politics is local. I would have a different view of some of these campuses if I were a resident of the community. For example, I would close USC-Union, USC-Beaufort, and USC-Salkehatchie, but the residents of those areas feel they need them, saying, "You may as well call us a dead community."

Mr. Cotty added that, in his opinion, some of the USC two-year campuses might as well be community colleges. Then he mentioned Coastal Carolina, which built up from a two-year branch of USC to become a four-year university. Where there is both a two-year USC branch and a technical school in the same area, Mr. Cotty would close the USC branch. One example is USC-Sumter, across a hedge from Central Carolina Technical College. Dr. Crook, President of Orangeburg-Calhoun Technical College, also believes the USC two-year branches should be part of the technical college system. Dr. Zais, President of Newberry College, agrees, "We have two-year USC branches sharing a parking lot with a technical college."

Dr. Russell, President of the South Carolina Technical College System, offered the view that the duplications, such as USC-Sumter beside Central Carolina Technical College, were determined politically, and they will have to be corrected politically. He then cited the experience in North Carolina, where the community college system decided to close Pamlico Community College, the smallest college in the system with less than 600 students (*North Carolina Community College System Factbook*, 2006), and

make it a satellite of a larger nearby community college. That proposal raised such a furor that the system's leaders stopped trying to make any changes in the North Carolina community college system.

Should South Carolina's Technical Colleges be Community Colleges?

The four-year public university president was quick to acknowledge that other technical colleges in South Carolina may be qualified to be community colleges, and, if qualified, be allowed to change their names. The president contended, however, that no one college could function as both a community college and a technical college.

This view was also borne out by Dr. Zais, the four-year private college president, who felt that the present technical colleges would be more effective if they chose one mission or the other. "Our state has failed to distinguish between a technical college and a community college." Dr. Zais believes that one institution cannot be both; therefore, the South Carolina General Assembly must mandate that each technical college choose to be one or the other, but not both. Community colleges should provide entry level education for transfer to a four-year university and provide associate degrees. Technical colleges should provide only technical training, but these should be separate institutions from the community colleges. Each institution must determine its mission. "You can't be all things to all people." Per both Dr. Zais and the four-year public university president, all of the technical colleges are aspiring to be four-year schools.

The opposite view was expressed by Dr. McCurdy, CHE Chairman, who held that the technical colleges are doing such a good job in technical, transfer, and remedial education that they deserve to be called community colleges now. He reported that the Gen-

eral Assembly had recently allowed Spartanburg Technical College to change its name to Spartanburg Community College, a first for South Carolina (South Carolina General Assembly, 2006) On the Spartanburg name change, Representative Cotty reported that he could have blocked the enabling legislation, but he did not. (These interviews were conducted before the funding withdrawal threat by the chairman of the Senate Finance Committee and the subsequent decision by the Spartanburg County Commission for Technical and Community Education to defer any name change for the school.)

Dr. Russell, SCTCS President, also felt that the technical colleges are able to handle technical, associate and transfer education at the same time. He gave a logical reason for keeping these three responsibilities in a single organization: a high school graduate may feel more comfortable taking technical training at the same school where his former high school classmate is taking transfer courses. In addition, a student who finds the college-level courses not to his liking may move to more acceptable technical training without being required to change schools. Dr. Russell says, "There is a real blurring," in technical college education.

Dr. Russell said there may be a misunderstanding as to what technical colleges are doing. He cited the history of South Carolina's technical colleges, where they began as Technical Education Centers offering only technical training. In many other states, the junior colleges changed themselves into community colleges by adding technical training. "You could take a catalog from a community college in California and one from Midlands Technical College, you could swap covers, and you might not tell the difference," per Dr. Russell. Dr. Crook also felt that OCTech has been able to handle well the triple role of providing technical, remedial, and transfer training. She did concede that,

“Maybe at times we are trying to do all things for all people, and no one can do that.” The four-year public university president expressed concern that, “We have done a terrible job of communicating to students that 85% of the jobs require some education beyond high school.” The president also voiced the concern that some technical colleges had begun offering college-level courses to less-qualified high school students.

Related Research

On April 11, 2006, Governor Mark Sanford appointed a Task Force on Higher Education, charged with “identifying concrete steps to reduce tuition, encourage more collaboration and reduce duplication” (Group to Examine, 2006). An earlier editorial in *The State* newspaper (Audit shows, 2001) commented on a report by the Legislative Audit Council that the CHE had effectively muffled the intent of a performance funding law passed in 1996 by reducing the performance-based funding to 3% of the total funds for higher education. The editorial further bemoaned the lack of progress in eliminating duplicative programs.

Data presented in Table X offer additional perspective on the comments that South Carolina has too many technical colleges. South Carolina, with one two-year college for every 191,000 people, is very close to the regional average for two-year colleges. (The count for South Carolina appears to include the 16 technical colleges, the four USC two-year campuses and one private two-year college.) It is also possible that all of the southeastern states suffer from having too many institutions of higher education.

Table X. Population per Two-year College in Selected Southeastern States, 2000 Census

State	Population in 000s ^a	Number of Two-year Colleges ^b	Population per Two-year College (000)
Alabama	4,447	24	185
Florida	15,982	28	571
Georgia	8,186	29	282
Kentucky	4,042	16	253
Mississippi	2,845	61	47
North Carolina	8,049	61	132
South Carolina	4,012	21	191
Tennessee	5,689	15	379
Virginia	7,079	25	283
Totals	60,331	280	215

^aSource: *World Almanac 2002*

^bSource: *U. S. Community colleges by state, 2005*

A Change in Maine

On July 1, 2003, the State of Maine changed the names of its seven technical colleges to community colleges. An interview with Ms. Alice Kirkpatrick, Director of Public Affairs for Maine Community College System (MCCS), brought out the fact that the newly named schools experienced an 18% increase in enrollment in the fall of 2003. Even the trades (technical) courses showed an increase in enrollment. Ms. Kirkpatrick reported that, in the opinion of the leaders in the community colleges, the enrollment increase came from students who would not have gone to college otherwise, but who had been inhibited by the name "technical college". In a second interview (May, 2006), Ms. Kirkpatrick reported that the MCCS had continued to enjoy double-digit increases in enrollment for the succeeding two fiscal years, for an aggregate increase of 42% over three years.

CHAPTER V

CONCLUSIONS

Introduction

This dissertation seeks to understand the perceptions of key constituencies (legislators, private and public four-year college presidents, and technical college presidents) about technical colleges in South Carolina, their impact in the state, and the difficulties they face. A factor analysis of a survey completed by members of these constituencies identified five categories of perceptions (in order of importance in the factor rotations):

1. Quality of students and faculty. The top loading questions in this factor sought the respondent's views on whether the South Carolina Technical College System (SCTCS) had a strong academic reputation, attracted quality high school students, had a well-qualified faculty and produced academically prepared graduates. Additional questions included in this factor dealt with articulation and remedial education.
2. Attitudes about the adequacy of university and P-12 funding. The top loading questions in this factor sought the respondents' views on the adequacy of funding for P-12 education and for the four-year public colleges and universities.
3. Understanding of benefits to communities and businesses. The top loading questions in this factor were designed to measure the respondents' awareness of the role of the technical colleges in job creation, help to South Carolina businesses, and help in improving the quality of life for all citizens.
4. Personal experiences with technical colleges. The top loading questions in this factor dealt with the respondents' personal experiences with technical colleges—whether he or she had ever attended a seminar or personal development course, and whether an employee or relative had enrolled at one of the technical colleges.
5. Awareness of programs and services of technical colleges. The top loading questions in this factor dealt with the respondents' awareness of the enrollment and the number of colleges in the SCTCS.

Factor (weighted) scores were derived from the factor analysis and used in subsequent MANOVAs to explore differences among the targeted constituents, thus testing the five hypotheses for this study. Results indicated that both legislators and technical college presidents held significantly more favorable opinions of the quality of students and faculty than the other presidents. Factor analysis indicated that this is the most important issue on the minds of the respondents. Factor 2, attitudes about university and P-12 funding, was ranked the next most important factor; however there were no statistically significant differences among the groups surveyed.

With regard to Factor 3, understanding of benefits to communities and businesses, the technical college presidents had a significantly more favorable view than either public or private college and university presidents. Senators also had a significantly more favorable view than members of the House of Representatives. For Factor 4, personal experiences with technical colleges, legislator's scores were higher than other presidents and technical college president's scores were higher than private college presidents. Factor 5, awareness of programs and services of technical colleges, showed the technical college presidents displaying significantly greater awareness than legislators or public or private college and university presidents.

Finally, select subjects from each of the targeted groups were interviewed in order to confirm, and to better explain, the emergence of the five factors and to help explain the relative importance of these factors for the different groups. Briefly, the interview comments did cluster around the five categories identified in the factor analysis, primarily around quality of faculty, success of articulation, and caliber of and need for remedial education. The interviews also revealed areas of concern that were not identified by the

factor analysis. These include cooperation with four-year universities and numbers of and names of technical colleges.

Results from Factor Analyses and from Interviews

Factor analysis of the survey results identified five clusters of attitudes, and follow-up MANOVA analyses explored differences among politicians and educational institution presidents on these factors. Open ended responses on the surveys along with interviews of select participants helped illuminate the statistical findings.

The factor analyses identified general perceptions that were important to respondents as they completed the survey. Quality of students and faculty accounted for most of the variation in the analysis and was likely, then, of particular importance to respondents. The remaining factors, although important, were less indicative, in descending order, of attitudes about the image of South Carolina's technical colleges.

These results, along with supporting observations from the open ended questions, and from the interviews, are summarized as follows:

Factor 1—Quality of Students and Faculty

The set of questions that define this factor were significant in the minds of respondents. This is probably due to the fact that the Factor 1 questions cover the heart of educational quality—academic reputation, faculty performance, articulation and other cooperation with other colleges and universities.

Evidence of these reasons why Factor 1 was so significant are revealed in the responses to the open ended questions in the survey. In those open-ended questions, only two strengths were cited, along with 10 weaknesses, most of which referred to poor qual-

ity or part-time faculty. Another Factor 1 issue: A related weakness cited by all three groups was poor articulation with the four-year universities. The weaknesses cited by technical college presidents support their perception of the way others view their colleges. Comments such as “lack of respect,” “‘poor me’ complex,” “public policy members . . . don’t feel obligated to support,” and “mission still misunderstood” add to the perception of lack of quality of students and faculty.

The Factor 1 issues are of major importance to other college and university presidents for two major reasons: (1) they must deal with transfer students who are able to move between the technical college and the four-year university, and (2) they are concerned that every educational institution performs up to acceptable quality standards. The technical college presidents, as professional educators who wish to cultivate good perceptions of their schools, would appear to share these same concerns.

Several of the comments from legislators strike heavily at the provision of transfer courses by the technical colleges, e.g., they “don’t want to serve their historic role of technical education . . .” and “Focus on college transfer rather than technical education.” Added to this are negative opinions about the academic qualifications of the technical college faculty, such as, “Not strong enough academically,” and “Forced to hire too many part-time instructors.”

Many comments from other college and university presidents relate to academic qualifications and the perceived lack of ability to provide transfer education. These perceptions include: “Faculty not as competent,” “Quality of academic faculty is weak,” and “Quality highly variable.” As to the ability of the technical colleges to provide transfer education: “These students are not as well prepared to seek a four-year degree as they

should be,” “Focus on college transfer rather than technical education,” and “. . . emphasize college transfer programs at the expense of their primary technical training mission.”

A vast majority of the other presidents agree that the technical colleges comply with the same accreditation requirements, and yet less than half agree that the technical colleges have well-qualified faculty. Neither group appears to give unqualified support for either the system of articulation with the four-year universities or for the present system of remedial education.

Factor 2—Attitudes about the Adequacy of University and P-12 Funding

No strengths or weaknesses were cited in the open-ended questions. The lack of comments may signal a shared concern for equitable funding, without making it a controversial issue. There was a parallel question in the survey about technical college funding that did not load heavily on this factor. This ‘separation’ of university/P-12 from technical college funding may suggest attitudes about differential importance of university and P-12 funding. It may also reflect perceptions that university/P-12 funding is adequate to a different degree than technical college funding. This difference in perception of importance is supported by weaknesses cited by two technical college presidents: “Public policy members know value but don’t feel obligated to support,” and “Lack of ability to transform spoken support into resource support.” The public university president added another perspective with, “We are not big enough as a state to fund technical colleges with transfer courses and the four-year universities also.”

Factor 3—Understanding of Benefits to Communities and Businesses

More than half (70/123) of the open-ended comments—all positive—followed a theme of “affordable, flexible, accessible.” More than 50 comments were favorable of technical programs. However, only three respondents commented on the college transfer programs at the technical schools. This suggests that the term “technical college” implies technical training in the minds of respondents. The middle level ranking of this factor appears to indicate that the four-year colleges and universities view the assignment of technical training as a settled issue. The statement by Dr. Russell, President of the SCTCS that there may be a misunderstanding as to the technical college mission and the university president’s comment that the local technical college should concentrate on technical training make it apparent that the role of the technical college is not universally understood.

Factor 4—Personal Experiences with Technical Colleges

The top loading questions for this factor dealt with personal relationships with technical colleges; surprisingly, however, the question on the adequacy of technical college funding also loaded rather highly on this factor. Many of the comments from technical college presidents were about lack of funding. Two legislators felt strongly that the technical colleges faced great difficulties in competing with the four-year universities and the research universities for adequate state funding, due to the biases of the CHE and legislators. The linkage of funding and experiences with technical colleges, then, may reflect an attitude by those with such experience that technical colleges are deserving of better funding.

Factor 5—Awareness of Programs and Services of Technical Colleges

Weaknesses cited in the open-ended responses included lack of diversity in the nursing and engineering programs, lack of coordination with workforce needs, and the limits placed on some programs by skill testing. Other comments called for expanding campuses and greater enrollment opportunities. Because the questions covered by factor 5 dealt primarily with knowledge of the South Carolina Technical College System, it follows that few of the non-technical college respondents would express the same level of awareness as do technical college respondents.

Miscellaneous Comments

“Highly successful in bastardizing the baccalaureate degree” calls attention to a major trend in our approach to education. In their interviews, both technical college presidents reported that 25% of new technical college enrollees already have four-year degrees; some even have master’s degrees. The starting salaries cited by Dr. Mitchell Zais, President of Newberry College—teacher, \$38,000 and HVAC person, \$62,000—illustrate the point that some specialized skills draw better pay than some professions requiring more years of education. Because technology is changing faster than ever, new skills may be in demand today that were never heard of five years ago; this trend is almost certain to continue.

Non-Factor Comments

The most common weakness that was cited—by 12 respondents—related to the perception that the technical colleges wanted to be community colleges, and that they were ignoring their obligation to provide technical training. (One respondent and one in-

interviewee said, “They want to be four-year schools.”) Another area cited often was that the technical colleges did not use their clout, and that they received poor support from public officials. By contrast, five respondents replied that the technical colleges should be called community colleges.

Results for the Hypotheses

Because Factor 2 produced no statistically significant differences, it will not be part of the following discussion. With that factor omitted, it is possible to see a pattern of results from the five hypotheses. The most important observation from the survey is that the technical college presidents had a more favorable opinion than the private college and university presidents in every other factor. Except for Factor 4, personal experiences with technical colleges, the same was true for the comparison of technical college presidents with public college and university presidents. It would be expected that, in most cases, technical college presidents would describe their schools as operating well, whereas the other presidents may be likely to see bad results (or remember only the bad) after students transfer to their schools. The large number of comments about the technical training abilities of the technical colleges compared with very few comments about AA/AS/transfer education, may signal that the other presidents may, like Boston Mayor Menino, view the technical colleges as not “real” colleges.

The other significant differences are likely to be of less importance to the conclusions in this study—the legislators having higher opinions than other presidents on Factors 1 and 4, the technical college presidents having higher opinions than legislators on Factor 5, and Senators having more favorable opinions than House members on Factor 3. The results by hypothesis are presented in the following sections.

Hypothesis 1

Hypothesis 1: There are significant differences between the perceptions of the Legislators and the other college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

Hypothesis 1 was supported for Factors 1, quality of students and faculty, and 4, personal experiences with technical colleges. The legislator who was interviewed displayed admiration for the quality of courses offered at technical colleges and also displayed a wide knowledge of the technical college system. The private college president displayed similar admiration, but may have had a somewhat less-extensive knowledge of the technical college system. The claims by the public university president that technical college courses could be “watered down,” and the contentions the instructors may not be qualified, tend to add support to the importance of this factor, and also seems to be consistent with the survey results.

Hypothesis 2

Hypothesis 2: There are significant differences between the perceptions of the technical college presidents and the legislators regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

The technical college presidents had a higher opinion than the legislators only on Factor 5, awareness of programs and services of technical colleges. The legislator who was interviewed was aware of technical college programs and services, but it would be difficult for him to have the detailed awareness that technical college presidents have.

Hypothesis 3

Hypothesis 3: There are significant differences between the perceptions of the technical college presidents and public college and university

presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

Statistically significant differences between technical college presidents and public college and university presidents were revealed for Factor 1, quality of students and faculty; Factor 3, understanding of benefits to communities and businesses; and Factor 5, awareness of programs and services of technical colleges. For Factors 1, 3 and 5, the mean responses of the Technical College Presidents were greater than for Public Presidents. Factor 1 (quality of students and faculty) differences are supported by comments from the public college and university presidents: “students are not as well prepared,” “poor quality academic offerings,” and “quality of faculty is weak.” Those Factor 1 differences also are supported by the opinions offered by the public university president. That president questioned the quality of remedial education being provided by the local technical college and questioned the qualifications of the faculty. Differences on Factors 3 and 5 would appear to be a natural result of the closeness that technical college presidents have with their own institutions.

Hypothesis 4

Hypothesis 4: There are significant differences between the perceptions of the technical college presidents and the private college and university presidents regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

The comparisons of the technical college presidents and private college and university presidents displayed statistically significant differences in Factor 1, quality of students and faculty; Factor 3, understanding of benefits to communities and businesses; Factor 4, personal experience with technical colleges; and Factor 5, awareness of programs and services of technical colleges. The private college president who was inter-

viewed had a high opinion of technical colleges, which appears to differ from the responses from some of his colleagues as to Factor 1. The differences relating to Factors 3, 4 and 5 would appear to be an expected consequence of the respondents' respective positions in technical and private education

Hypothesis 5

Hypothesis 5: There are significant differences between the perceptions of the members of the Senate and members of the House regarding their experience, knowledge, role, support and satisfaction ratings for technical colleges.

The post hoc analyses indicated a statistically significant difference in the perceptions of members of the Senate and the House only in Factor 3, understanding of benefits to communities and businesses. If this difference is attributable to the length of service of the respondents, it may explain why Representative Cotty appeared to be knowledgeable of the benefits and services to communities and business. He has 12 years experience in the General Assembly.

An important issue raised by both the public and the private university presidents was the question of whether a single college could handle both technical and transfer education. The technical college representatives and the CHE chair all disagreed, saying that this is being done successfully all over the United States. The disagreement supports the Factor 1 differences shown in the survey.

Other Issues

Five respondents said the technical colleges were viewed poorly by the four-year universities, and three cited "poor state organization." The remaining comments covered a range of issues: "No dorms or sports," "don't need dormitories," "overpriced," poor

help in obtaining financial aid, salaries too high, “lobbies too much,” and “need aggressive alumni.”

The Educational Pyramid: General Observations

Three technical college presidents described themselves as presidents of two-year public colleges or universities, and another respondent described himself as president of a research university (the highest category shown on the survey instrument was four-year public university). These descriptions tend to verify the contention that there is a pyramid in higher education, starting with the research university at the top, followed by the four-year universities, then the two-year colleges or universities, and, last, by the technical colleges. Each participant presumably wishes to be placed as high as possible on that pyramid.

Rate and Quality of Response

When an analysis of the overall survey response of 36% is viewed in detail, one sees that 27% (46 of 170) of the legislators responded, whereas 62% (37 of 60) of the presidents responded. One legislator told the researcher that they received many, many survey requests, which were easy to ignore. An indicator of the quality of the responses by legislators is displayed by the large number of survey forms that were rejected, because the respondent did not read the rating scales. Of the responses from senators, for example, 35% (6 of 17) were rejected for that reason.

Strengths of Technical Colleges

The strengths mentioned by all groups in their survey responses include, “accessible,” “meets needs of business and industry,” and “good training programs,” but rarely

refer to the transfer function. This may indicate that legislators and four-year presidents think of the technical colleges only in terms of the technical training they provide. No current legislator has been in office long enough to have assisted in the creation of the Technical Education Centers in the 1960s. However, Representative Cotty expressed the belief that most of his colleagues would prefer to keep the present name, “technical college.” In April 2006, his belief was underscored by Senator Hugh Leatherman’s threat to withhold financing if Spartanburg Technical College changed its name (Dalton & Mesha, 2006).

Also of interest is the observation of a four-year public university president that the South Carolina Technical College System has a “well oil(ed) machine.” By contrast, a technical college president commented that the system’s 16 colleges “give it considerable political clout--not always optimized.”

Cooperation

By their actions, two of South Carolina’s research universities appear to be cooperating very well with the technical colleges. This cooperation is verified by the large numbers of transfers from Midlands Technical College to the University of South Carolina, and from Tri-County Technical College to Clemson University. According to Walker Coleman, assistant to the president of the third research university, the Medical University of South Carolina, that university is less likely to have direct connections with the technical colleges, because most of their educational courses are at or near the graduate level (personal conversation, 2005).

A relatively new development is the trend away from traditional education, where students march, year by year, through progressive grades, to a level of education which

fits the student for all of life's challenges. Instead, adults with degrees are returning to universities or technical colleges for additional education to fit themselves for occupations that did not even exist 10, 15 or 25 years ago. Indicative of this trend are the statements by both Dr. Anne Crook, president of Orangeburg-Calhoun Technical College, and Dr. Barry Russell, president of the South Carolina Technical College System, that more than 25% of new enrollees already have at least a bachelor's degree.

Does South Carolina Have too Many Colleges and Universities?

The four-year public university president who was interviewed contended that there were enough four-year universities in the state to handle all higher education, implying that there was no real need for technical colleges to offer transfer courses. Other interviewees expressed views that some of the two-year USC branches could be merged into the technical college system. As Dr. Barry Russell put it, the state's higher education system was created by a political process; therefore, it must be changed by that same political process.

State Funding

The Mission Resource Requirements (MRR) formula is intended to treat higher education institutions fairly, but is currently below parity for the technical colleges. In this year of improvements in the economy, it would seem highly desirable for the General Assembly to bring funding back to the levels that were originally intended. For the fiscal year 2005-06, the state portion of operating needs met by state appropriations varies widely from 89% for The Citadel to 45% for Coastal Carolina and MUSC, with the technical colleges receiving 45% (Calculating General and Operating Needs, 2006).

The Name

Even those who are most critical of the dual mission (technical training and AA/AS/transfer education) of the technical colleges admit that some of the present technical colleges should be allowed to call themselves community colleges.

The problem of changing names is another example of a political creation which calls for a political solution. Because, in the beginning, the South Carolina Technical College System consisted of technical education centers, which concentrated on technical education, many believe that it is almost heretical to expect these schools to do anything else. Early in his efforts to set up the TEC schools, Wade Martin advised that academics never be allowed to become part of the technical college system (personal communication with Mrs. John Hills, August, 2003). It would be helpful to learn more about the success the State of Maine has had in changing the names of its technical colleges to community colleges. Of special interest is the consequent increase in enrollment, even in the trades (technical) courses. According to Maine Community College System officials, the additional enrollment in the community colleges did not reduce the number of high school students entering four-year colleges and universities.

Control Over Higher Education in South Carolina

Several comments were made during the interviews about control over higher education in South Carolina. Central to this theme is the comment by Dr. Mitchell Zais, president of Newberry College, "The Commission on Higher Education is little more than a debating society." He added that control should be exercised by the General Assembly, but that that body had not taken charge.

Some interviewees observed that few of the legislators were products of the technical college system, and therefore did not have as much interest as they should in the best use of technical colleges. Representative Cotty (a University of South Carolina graduate) takes an opposing view, that “Carolina doesn’t need my help,” and that he has helped to provide state funding for worthy technical college projects.

Higher education is further affected by the comment from Dr. Layton McCurdy, chairman of the Commission on Higher Education, that “K-12 is the weakest part of our educational system . . .” Weaknesses in K-12 place a burden on the technical colleges, who are responsible for remedial education.

What is the Image of South Carolina’s Technical Colleges?

Based on the survey of legislators and college and university presidents, and on the views expressed by the officials who were interviewed, a balanced image of South Carolina’s technical colleges is presented here:

South Carolina’s technical colleges are a valuable asset to the businesses, industries and the citizens of our State. In addition to the college credit enrollment of 107,000 in 2004, these schools enrolled 132,000 continuing education students (*Factbook*, 2006). This growth came about despite the possible handicap of the technical college name. Attempts to change the name to “community college” have been stifled by leaders who fear that the name change would lead to a de-emphasis on technical training—the specialty which gave South Carolina’s technical colleges the reputation for being “one of maybe the two leading states in using community and technical colleges as strategies for economic development” (Holmes, 2002, p. 6).

All 16 of South Carolina's technical colleges have been fully accredited for more than 20 years, during which time there has been a substantial increase in enrollment. The technical colleges have proved themselves worthy partners with the research universities, collaborating on designated transfer students and on important research projects. Many leaders in higher education, however, including both guidance counselors and college and university presidents, believe that articulation of technical college courses with the four-year schools leaves a lot to be desired. In addition, a perception of unqualified faculty remains, primarily on the part of the public college and university presidents.

Conclusions

A virtual rainbow of perceptions is apparent from this study.

Positive Perceptions

The terms, "accessible," "convenient," and "affordable" were quite common in the statements of strengths. A large majority of the complimentary statements appear to deal with the ability of the technical colleges to provide technical training, e.g., "helps recruit industry & business," "do a good job of training for industry," and "prepares our citizens for technical jobs." One house member said the faculty bring their "real world experience" to their classes. This is especially important in view of Rosenfeld's report that South Carolina "has a greater proportion of employees working in international companies than (any) other state in the continental United States" (2004, p. 13).

The technical college presidents see their colleges as having the "ability to do relatively quick responses," being "flexible to adapt to needs of business and industry," and having "small classes and a caring faculty."

Negative Perceptions

Unfortunately, there is no pot of gold at the end of this virtual rainbow. At the dark end are several negative perceptions:

1. The articulation program received very low support from both technical college presidents and other presidents.
2. A perception of lack of faculty competence was apparent in the survey questions, the survey comments and in the interviews. These comments came both from other presidents and from legislators. This perception was further underscored by Welch's (2004) study of high school guidance counselors and by the *Image and perception study*, (2000) and its interviews with K-12 educators.
3. Technical college administrators describe themselves as "poor me," "prestige challenged," and suffering from "lack of respect" and from a misunderstanding as to their true mission.
4. Some technical college presidents said that their colleges should be called community colleges, although other presidents and legislators were critical of this goal.
5. Four-year presidents see the technical colleges as neglecting their "primary mission" of providing technical education, and of trying to become four-year schools or, at least, community colleges.

Perceptions--the Overall Effect

It is possible that these perceptions of weakness are having a negative effect on enrollment in South Carolina's technical colleges, but they cannot be considered to have inflicted a fatal wound. The FTE enrollments for the South Carolina Technical College System are shown for 1993 and 2003:

	1993	2003	% Increase
AA/AS degree programs	8,754	13,675	56.2
Technical education programs	34,958	48,304	38.2

Changing Names to Community Colleges

According to Dr. Anne Crook, some of the technical college presidents prefer that their schools remain technical colleges. For the other technical college presidents who seek the community college name for their schools, it is recommended that the General Assembly set rigorous standards for these schools to be allowed to make the name change, including proof of current accreditation by SACS, records of successful placement/transfer by graduates and, perhaps, records of collaboration with four-year public universities. Compliance with these rigorous standards may help to blunt the concept that these schools are not just “glorified high schools.”

How Can We Determine Whether We Have Too Many Public Colleges and Universities?

This study was not intended to consider whether South Carolina has too many institutions of higher education. However, the number of comments presented during the survey and in the subsequent interviews is an indicator that many people feel that overcapacity and duplication may be problems for higher education in South Carolina.

Nationally, the Base Realignment and Closure Commission (BRAC) is a key element in closure of excess military bases and realignment of other facilities. In March 2004, BRAC estimated that the Department of Defense had 24% excess capacity. The BRAC Commission studies recommendations for base closings, listens to testimony from community leaders, and decides which bases should be closed. After a list of recommended closings is submitted to and approved by the President, Congress can only accept or reject the entire list of proposed closings (Garamone, 2005). This method weakens the

ability of individual legislators to “log-roll” for their particular pet projects, and has proved successful in achieving at least some economies in U. S. defense planning.

It may be difficult for the South Carolina General Assembly to consider a similar review of higher education in our state. However, the concept could allow the state to achieve cost savings that might not otherwise be available.

Suggestions for Further Study

Several suggestions for further study are presented here.

1. Maine name change: It could be of great benefit to study the work the Maine Community College System (MCCS) did to make the name change so successful that enrollment increased by 18% the first year and by 42% over the first three years since the name change. Information on communications by MCCS officials with high school guidance counselors, students, parents and other officials may be helpful to the South Carolina Technical College System, whether or not name changes are authorized in South Carolina.
2. A review of the mission: Are South Carolina technical colleges literally ignoring their original mission? This is a serious question, in light of the multiple statements by presidents, by legislators, etc. The statements that came from the survey and interviews point toward a perception by many that the technical colleges are not just trying to offer both technical education and transfer courses, but they are consciously steering away from their original mission.
3. Articulation: Are the 84 courses now mandated for acceptance by the 4-year public universities really being accepted by the four-year universities? Are the courses really being taught as intended? What other courses should be on the mandated list? Are there other changes that should be made in articulation for the benefit of South Carolina higher education? These questions should be studied and answered. The fear of such a change was the reason expressed by Senator Leatherman in opposing the name change for Spartanburg Technical College.
4. Communication with K-12 guidance counselors: In the Welch (2004) study, high school guidance counselors were found to have a very poor opinion of technical college academics and of technical college faculty. Although the SCTCS has not made a statewide effort to educate these counselors (L. Ray, personal communication, April 18, 2006), one or more of the individual technical colleges may have done so.

5. Communication with K-12 educators: What can K-12 educators do to reduce the need for the remedial classes now offered at the technical colleges? No statewide effort has been made (L. Ray, personal communication, April 18, 2006), but individual technical college efforts, if they exist, could be studied. A review of apparent deficiencies of high school graduates, and consequent improvements in K-12 education may prove to be a most productive project.
6. Education and Economic Development Act: This act calls for K-12 to offer 16 career clusters (*South Carolina education and economic development act*, 2005). The effect of this act on South Carolina's technical colleges is certain to be dramatic.
7. Qualifications of technical college adjuncts: Vaughan (2005) recalls the early 1960s, when community colleges hired experienced local leaders to teach courses within their business specialties. Later, some community colleges began to hire adjuncts simply because they were less expensive than full-time faculty. A study of this phenomenon could answer whether community colleges are hiring adjuncts for experience or economy.

O'Banion and Milliron Call for Changes

O'Banion (1997) and Milliron (1998) both call for change in the community college system. O'Banion (1997) wants community colleges to be learning colleges, which can provide educational experience "anyway, anyplace, anytime" (p. 17), and he compares the current community college system to a dying tree. With the knowledge that 25% of all new technical college students already have bachelor's degrees, it appears that these non-conventional students are giving nourishment to that dying tree, and are recognizing that they are receiving education almost on demand. The arrival of the already degreed students may tell us that O'Banion's "dying tree" is doing very well, and that the students themselves are signaling a change away from the former steady march through grades 1-16 (or 1-20) to more of an "on-demand" educational system.

Milliron (1998) holds that, to make learning the driving force, "the traditional time-bound, place-bound, role-bound and efficiency-bound structures are overthrown." Milliron further criticized 50-minute classes and 30-person classrooms. But then he in-

sists, “We can never lose sight of the caring smile, the encouraging word, and the interested ear in community college education.” Are we thereby seeing the “sea change” from another direction?; i.e., the college degree is not necessarily the best ticket to success for every high school graduate, as indicated by Dr. Zais’ comparisons of school teachers’ \$38,000 average salaries with HVAC’s \$62,000 average salaries.

A Sea Change?

Levin (1998, p. 3) states that “although change is the defining characteristic of the community college...we are not necessarily experiencing a sea change.” In the researcher’s undergraduate years, the standard was, “You must take” certain courses to graduate. Now, the student is saying, “I want to take” specific courses, which the student needs to qualify for a designated specialty. Milliron’s reference to “the caring smile, the encouraging word, and the interested ear” still holds true. More than ever, however, we see less of the steady march through the high school diploma, the bachelor’s and master’s degrees, and even the doctorate, to education followed by experience, followed by more education. This trend is almost certain to continue for some time to come, as the technology explosion continues.

Summary

This study has revealed negative perceptions in such areas as faculty qualifications, articulation with the four-year universities, and effectiveness of remedial education. Some of these perceptions may come from four-year university presidents, who may believe that the technical colleges are providing unwelcome competition. At the same time, instances of collaboration between the technical colleges and the four-year universities,

both in working toward a seamless educational system and in displaying a united front in attracting new industry, appear to overshadow the negative perceptions.

It is hoped that the conclusions expressed in this dissertation will provoke constructive discussion and help to assure that the schools in the South Carolina Technical College System are recognized for their important role both in higher education and in South Carolina's industrial development. The conclusions of this study may also be helpful in improving the perceptions of other groups, such as K-12 educators, representatives of industry, and prospective students.

APPENDICES

Appendix A

Survey Instruments

**Survey/Questionnaire for South Carolina General Assembly Members
Regarding the South Carolina Technical College System**

The following questions are designed to help us understand the perceptions by members of the South Carolina General Assembly regarding the South Carolina Technical College System. Please provide your best response to the following questions. All responses will be treated as confidential information; respondents will not be identified in any way.

I am a <input type="checkbox"/> State Senator <input type="checkbox"/> State Representative	Race <input type="checkbox"/> African-American <input type="checkbox"/> American Indian/Alaska Native <input type="checkbox"/> Asian <input type="checkbox"/> White <input type="checkbox"/> Hispanic <input type="checkbox"/> Other _____	I have been a member of the General Assembly for <input type="checkbox"/> 0-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> 11-15 years <input type="checkbox"/> 16-20 years <input type="checkbox"/> More than 20 years
Gender <input type="checkbox"/> Male <input type="checkbox"/> Female		

EXPERIENCE Please tell if you have ever...

Experience	Yes	No
1. Enrolled in a South Carolina technical college.	1	2
2. Attended a seminar or personal development course at one of South Carolina's technical colleges.	1	2
3. Participated in a job training course at a South Carolina technical college.	1	2
4. Visited one of South Carolina's technical colleges.	1	2
5. Have had a relative or employee enroll at one of South Carolina's technical colleges.	1	2

KNOWLEDGE Please indicate your awareness of these statements about the South Carolina Technical College System by circling each answer.

Knowledge	Strongly Disagree	Dis-agree	Neither	Agree	Strongly Agree
6. The Technical College System includes sixteen colleges across South Carolina.	1	2	3	4	5
7. The Technical College System enrolls approximately 50% of all public higher education students in South Carolina.	1	2	3	4	5
8. The System offers programs that provide personal and professional growth opportunities to businesses, industry and the	1	2	3	4	5

community at large.					
9. The Technical College System offers custom-designed employee training programs for new and expanding businesses.	1	2	3	4	5
10. 85% of all new jobs in South Carolina require more than a high school diploma.	1	2	3	4	5
11. The Technical Colleges offer transfer courses for students who are planning to attend a 4-year college.	1	2	3	4	5
12. South Carolina's Technical Colleges assist under-prepared students in developing the skills to enter college level programs.	1	2	3	4	5
13. The Technical College System has more than 75,000 students.	1	2	3	4	5
14. South Carolina's Technical Colleges are accredited just like four-year public and private colleges.	1	2	3	4	5
15. Most of the 1,200 two-year colleges in the U.S. are called "community colleges."	1	2	3	4	5

ROLE OF THE TECHNICAL COLLEGES Please circle your view of the South Carolina Technical College System in each of the following roles. The South Carolina Technical College System . . .

Roles	Strongly Disagree	Dis-agree	Neither	Agree	Strongly Agree
16. Supports efforts to create new jobs in our state.	1	2	3	4	5
17. Helps South Carolina businesses compete.	1	2	3	4	5
18. Helps to improve the quality of life for all citizens.	1	2	3	4	5
19. Provides access to excellent higher educational opportunities to all citizens of South Carolina.	1	2	3	4	5

SUPPORT Please indicate your level of agreement or disagreement with the following statement:

Support	Strongly Disagree	Dis-agree	Neither	Agree	Strongly Agree
20. I would recommend one of the State's Technical Colleges to a family member/friend/constituent/employee/student.	1	2	3	4	5

If you answered "Strongly Disagree" or "Disagree" to this question, please explain your answer here:

RATINGS Please rate the South Carolina Technical College System on a number of important characteristics. The South Carolina Technical College System . . .

Characteristics	Strongly Agree	Agree	Neither	Dis-agree	Strongly Disagree
21. Produces technically skilled graduates.	1	2	3	4	5
22. Produces academically prepared graduates.	1	2	3	4	5
23. Attracts quality high school students.	1	2	3	4	5
24. Has a strong academic reputation.	1	2	3	4	5
25. Has a well-qualified faculty.	1	2	3	4	5
26. Provides an affordable education.	1	2	3	4	5
27. Meets the state's workforce needs.	1	2	3	4	5
28. Has a well-regarded system of articulation with the four-year universities.	1	2	3	4	5
29. Has an excellent reputation for its remedial education programs.	1	2	3	4	5

FUNDING Please indicate your views on current funding for the following three categories:

	Too Much	About Right	Too Little
30. Four-year public colleges and universities	1	2	3
31. South Carolina technical colleges	1	2	3
32. P-12 education	1	2	3

STRENGTHS AND WEAKNESSES

Please give two or three strengths of South Carolina's Technical Colleges: _____

Please give two or three weaknesses of South Carolina's Technical Colleges: _____

**Please return the completed form to
1787 Hillsboro Road, Orangeburg, SC 29115. Thank you.**

**Survey/Questionnaire for College and University Presidents
Regarding the South Carolina Technical College System**

The following questions are designed to help us understand the perceptions by South Carolina's college and university presidents regarding the South Carolina Technical College System. Please provide your best response to the following questions. All responses will be treated as confidential information; respondents will not be identified in any way.

I am president of a:

- _____ Four-year public college or university
 _____ Four-year private college or university
 _____ Two-year public college or university
 _____ Technical college
 _____ Other _____

Gender

- _____ Male
 _____ Female

Race

- _____ African American
 _____ American Indian/Alaska Native
 _____ Asian
 _____ White
 _____ Hispanic
 _____ Other _____

EXPERIENCE Please tell if you have ever...

Experience	Yes	No
1. Enrolled in a South Carolina technical college.	1	2
2. Attended a seminar or personal development course at one of South Carolina's technical colleges.	1	2
3. Participated in a job training course at a South Carolina technical college.	1	2
4. Visited one of South Carolina's technical colleges.	1	2
5. Have had a relative or employee enroll at one of South Carolina's technical colleges.	1	2

KNOWLEDGE Please indicate your awareness of these statements about the South Carolina Technical College System by circling each answer.

Knowledge	Strongly Disagree	Dis-agree	Neither	Agree	Strongly Agree
6. The Technical College System includes sixteen colleges across South Carolina.	1	2	3	4	5
7. The Technical College System enrolls approximately 50% of all public higher education students in South Carolina.	1	2	3	4	5
8. The System offers programs that provide personal and professional growth opportunities to businesses, industry and the community at large.	1	2	3	4	5
9. The Technical College System offers custom-designed employee training programs for new and expanding businesses.	1	2	3	4	5

10. 85% of all new jobs in South Carolina require more than a high school diploma.	1	2	3	4	5
11. The Technical Colleges offer transfer courses for students who are planning to attend a 4-year college.	1	2	3	4	5
12. South Carolina's Technical Colleges assist under-prepared students in developing the skills to enter college level programs.	1	2	3	4	5
13. The Technical College System has more than 75,000 students.	1	2	3	4	5
14. South Carolina's Technical Colleges are accredited just like four-year public and private colleges.	1	2	3	4	5
15. Most of the 1,200 two-year colleges in the U.S. are called "community colleges."	1	2	3	4	5

ROLE OF THE TECHNICAL COLLEGES Please circle your view of the South Carolina Technical College System in each of the following roles. The South Carolina Technical College System...

Roles	Strongly Disagree	Dis-agree	Neither	Agree	Strongly Agree
16. Supports efforts to create new jobs in our state.	1	2	3	4	5
17. Helps South Carolina businesses compete.	1	2	3	4	5
18. Helps to improve the quality of life for all citizens.	1	2	3	4	5
19. Provides access to excellent higher educational opportunities to all citizens of South Carolina.	1	2	3	4	5

SUPPORT Please indicate your level of agreement or disagreement with the following statement:

Support	Strongly Disagree	Dis-agree	Neither	Agree	Strongly Agree
20. I would recommend one of the State's Technical Colleges to a family member/friend/constituent/employee/student.	1	2	3	4	5

If you answered "Strongly Disagree" or "Disagree" to this question, please explain your answer here:

RATINGS Please rate the South Carolina Technical College System on a number of important characteristics. The South Carolina Technical College System...

Characteristics	Strongly Agree	Agree	Neither	Dis-agree	Strongly Disagree
21. Produces technically skilled graduates.	1	2	3	4	5
22. Produces academically prepared graduates.	1	2	3	4	5
23. Attracts quality high school students.	1	2	3	4	5
24. Has a strong academic reputation.	1	2	3	4	5
25. Has a well-qualified faculty.	1	2	3	4	5
26. Provides an affordable education.	1	2	3	4	5
27. Meets the state's workforce needs.	1	2	3	4	5
28. Has a well-regarded system of articulation with the four-year universities.	1	2	3	4	5
29. Has an excellent reputation for its remedial education programs.	1	2	3	4	5

FUNDING Please indicate your views on current funding for the following three categories:

	Too Much	About Right	Too Little
30. Four-year public colleges and universities	1	2	3
31. South Carolina technical colleges	1	2	3
32. P-12 education	1	2	3

STRENGTHS AND WEAKNESSES

Please give two or three strengths of South Carolina's Technical Colleges: _____

Please give two or three weaknesses of South Carolina's Technical Colleges: _____

**Please return the completed form to
1787 Hillsboro Road, Orangeburg, SC 29115. Thank you.**

Appendix BLetters to Survey ParticipantsCorrespondence 1**Current date**

Dear ---:

I am a Clemson University graduate student who is studying perceptions of South Carolina's technical colleges, as viewed by college and university presidents and by members of the General Assembly.

Please read carefully the enclosed description of this proposed study. You are under no obligation to participate, but I hope you will do so. Your opinion is valuable to me.

Thank you in advance for your consideration and for your participation.

Sincerely,

Charles L. McLafferty

Enclosure

For Survey Participants

Information Concerning Participation in a Research Study Clemson University

The Technical College Image in South Carolina

Description of the research and your participation

You are invited to participate in a research study conducted by Dr. Russ Marion, a professor in the Department of Health, Education and Human Development and Charles L. McLafferty, a graduate student working toward his PhD in Higher Education Leadership. The purpose of this research is to define the image of South Carolina's technical colleges, as viewed by South Carolina college and university presidents and by members of the South Carolina General Assembly.

Your participation will involve completing and returning the enclosed questionnaire.

The amount of time required for your participation in this survey will be 8 to 10 minutes. Some participants may be contacted later with a request for a short interview.

Risks and discomforts

There are no known risks or discomforts associated with this research

Potential benefits

This research may help us to understand and overcome any roadblocks to full utilization of our State's technical colleges.

Protection of confidentiality

We will do everything we can to protect your privacy. Your identity will not be revealed in any publication that might result from this study

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Dr. Russ Marion at Clemson University at 864-656-5105. If you have any questions or concerns about your rights as a research participant, please contact the Clemson University Office of Research Compliance at 864-656-6460.

Correspondence 2 (post card)

To be mailed approximately two weeks after the mailing of Correspondence #1:

Current date

Dear Sir or Madam:

If you have already returned the survey on technical education that I sent to you two weeks ago, I thank you.

If you have not, please take a few minutes to complete and return the survey form. Should you have any questions or need a second copy of the survey form, please call me at 803-531-3376.

Thank you again and

Sincerely

Charles L. McLafferty

Letter to Personal Interviewees

To be mailed after completion of the mail survey:

Dear ---:

You were recently asked to participate in a mail survey regarding perceptions of South Carolina's technical colleges. You have been selected for a personal interview to review and discuss the results of that survey.

Please read carefully the enclosed description of this proposed interview. You are under no obligation to participate. I hope you will participate, because your views may help to improve the quality of higher education in South Carolina.

Please indicate your willingness to participate at the bottom of this letter, and return it in the enclosed return envelope.

Thank you for your consideration.

Sincerely,

Charles L. McLafferty

 _____ I am willing to be interviewed regarding the perceptions of South Carolina's technical colleges. Please call me at the following location(s) to set a time and place:

_____ My home _____

_____ My business _____

_____ My legislative office _____ (for legislators only)

_____ I am willing to have my interview recorded.

_____ I am willing to be quoted regarding the contents of my interview.

_____ I do not wish to take part in this proposed interview.

 Signature

For Interview Participants

Information Concerning Participation in a Research Study **Clemson University**

The Technical College Image in South Carolina

Description of the research and your participation

You are invited to participate in a research study conducted by Dr. Russ Marion, a professor in the Department of Health, Education and Human Development and Charles L. McLafferty, a graduate student working toward his PhD in Higher Education Leadership. The purpose of this research is to define the image of South Carolina's technical colleges, as viewed by South Carolina college and university presidents and by members of the South Carolina General Assembly.

Your participation will involve a personal interview estimated to take 15-20 minutes. With your permission, the interview will be recorded, and the results may be published.

Risks and discomforts

There are no known risks or discomforts associated with this research

Potential benefits

This research may help us to understand and overcome any roadblocks to full utilization of our State's technical colleges.

Protection of confidentiality

With your permission, we may quote from the comments you make in the interview. If you do not wish to be quoted, however, we will do everything we can to protect your privacy. Your identity will be revealed only with your permission.

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Dr. Russ Marion at Clemson University at 864-656-5105. If you have any questions or concerns about your rights as a research participant, please contact the Clemson University Office of Research Compliance at 864-656-6460.

Appendix C

IRB Application

Application for Exemption Certification Clemson University Institutional Review Board (IRB)

<http://www.clemson.edu/research/orcSite/orcIRB.htm>

All research activities involving the use of human participants must be reviewed and approved by the Clemson University Institutional Review Board (IRE), unless the IRB determines that the research falls into one or more of the categories of exemption established by federal regulations.

A determination by the IRB that research is exempt does not absolve investigators from ensuring that the rights and welfare of human participants participating in research activities are protected, and that the methods used and information provided to gain participant consent are appropriate. Investigators may not solicit participation or begin data collection until they have received approval from the IRB or written concurrence that the research has been determined to be exempt.

Exempt applications are processed as received. There is no deadline for submitting exempt applications for review. Please allow seven to ten business days for processing.

If you have questions regarding the application process or the review of exempt protocols, please contact Laura Moll, IRB Coordinator, Office of Research Compliance, 223 Brackett Hall, Clemson, SC 29634-5704 (Phone: 864-656-6460; E-mail: lmoll@clemson.edu).

A complete application packet includes the following materials (check all that apply):

- Exemption Certification Form.
- Recruitment documents, if applicable (see question # 4).
- Letter(s) of support, if applicable (see question #4).
- Surveys, interview questions, tests, or data collection sheets, if applicable (see question #5).
- Informational letter or script, if applicable (see question # 8).

The Principal Investigator (PI) may submit this application by e-mail to Laura Moll (lmoll@clemson.edu) to qualify the application as a signed electronic submission. Alternatively, the application may be delivered in paper form with original signatures to the Office of Research Compliance, 223 Brackett Hall, Clemson, SC 29634-5704.

Exemption Certification Form

For office use only		Protocol Number: 06-IRB-001EX
<input type="checkbox"/> Validated Date:	▶	Research has been determined to be exempt under category: _____. Research may begin as of the date of determination listed below.
<input type="checkbox"/> Not validated	▶	The proposed research does not fall within the categories eligible for exemption. Submit an application for <input type="checkbox"/> Expedited or <input type="checkbox"/> Full committee review
Comments:		
Signature: _____		Date of determination: _____

▶ Research Title (For class projects, include course number and title.)	The Technical College Image in South Carolina
--	---

▶ Principal Investigator <input checked="" type="checkbox"/> Faculty <input type="checkbox"/> Other. Please specify. A student cannot be the PI. <input checked="" type="checkbox"/> I have completed the required human research protections training.	Name: Dr. Russ Marion	Phone: 864-656-5105
	Department: School of Health, Education and Human Development	E-mail: marion2@clemson.edu
	Campus address (room, building, street address): 409-G Tillman Hall Clemson, SC 29634-0715	
	Signature: _____ Date: _____	Fax: 864-656-1322

▶ Co-Investigator <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input checked="" type="checkbox"/> Graduate student <input type="checkbox"/> Undergraduate student <input type="checkbox"/> Other. Please specify. <input checked="" type="checkbox"/> I have completed the required human research protections training.	Name: Charles L. McLafferty	Phone: 803-531-3376
	Campus address (room, building, street address) or mailing address: 1787 Hillsboro Road Orangeburg, SC 29115	E-mail: cmclaff@clemson.edu
	Signature: _____ Date: _____	Fax: 803-531-3376

▶ Co-Investigator <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Graduate student <input type="checkbox"/> Undergraduate student <input type="checkbox"/> Other. Please specify. <input type="checkbox"/> I have completed the required human research protections training.	Name:	Phone:
	Campus address (room, building, street address) or mailing address:	E-mail:
	Signature: _____ Date: _____	Fax:

▶ Start and end dates	Anticipated start date: 1/9/2006 Anticipated end date: 2/28/2006
▶ Source of funding	Co-Investigator

If you check Yes to any of the questions below, your research is not exempt. Do not complete the exempt application. Submit an expedited or a full committee review application.

If you check No to all of the questions below, your research may be exempt from IRB continuing review. Please continue with the exempt application.

Does any part of the research require that participants be deceived? Yes No

Will the research expose human participants to discomfort or stress beyond the levels encountered in daily life? Yes No

Will prisoners, persons incompetent to provide valid consent, pregnant women where pregnancy is the focus of the research, or fetuses be participants in the study? Yes No

The Federal Code [45 CFR 46 (46.101)] permits research activities in the following six categories to be exempted from continuing review by the IRB. Please check the exemption category for which you are applying.

Categories of Research Activities Exempt from Continuing Review	
<input type="checkbox"/>	<p>1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as:</p> <p>a. research on regular and special education instructional strategies, or</p> <p>b. research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.</p> <p>Note: The above exemption is applicable to mentally handicapped individuals only if the research involves no changes in the content, location, or procedures of instruction from those normally experienced by the participant.</p>
<input checked="" type="checkbox"/>	<p>2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, <i>unless</i>:</p> <p>(i). the information obtained is recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants; <i>and</i></p> <p>(ii). any disclosure of the human participants' responses outside the research could reasonably place the participants at risk of criminal or civil liability or be damaging to the participants' financial standing, employability, or reputation.</p> <p>Note: Survey and interview techniques which include minors are not exempt. Observation of the public behavior of minors, if the researcher is not a participant, is exempt.</p>
<input type="checkbox"/>	<p>3. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under Category 2, if:</p> <p>a. the human participants are elected or appointed public officials or candidates for public office, or</p> <p>b. federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.</p>
<input type="checkbox"/>	<p>4. Research, involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that participants cannot be identified directly or through identifiers linked to the participants.</p> <p>Note: To qualify for this exemption, the data, documents, records, or specimens must be in existence before the project begins.</p>

<input type="checkbox"/>	<p>5. Research and demonstration projects which are conducted by or subject to the approval of appropriate Federal Department or Agency heads, and which are designed to study, evaluate, or otherwise examine:</p> <p>a. public benefit or service programs; or</p> <p>b. procedures for obtaining benefits or services under those programs; or</p> <p>c. possible changes in or alternatives to those programs or procedures; or</p> <p>d. possible changes in methods or levels of payment for benefits or services under those programs.</p>
<input type="checkbox"/>	<p>6. Taste and food quality evaluation and consumer acceptance studies, if:</p> <p>a. wholesome foods without additives are consumed, or</p> <p>b. a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.</p>

Please describe your study clearly and completely, using a style of language that can be easily understood by someone who is not familiar with your research.

1. Describe the purpose of the research study. Describe how it involves human participants.

Description: The study is designed to explore the perceptions of South Carolina's technical colleges, as viewed by South Carolina college and university presidents, by members of the South Carolina General Assembly, and by the Chairman of the South Carolina Commission on Higher Education and the present and immediate past Presidents of the South Carolina Technical College System.

2. Describe how the proposed research meets the criteria for exemption. Refer to the exemption category checked above.

Description: The research will involve a survey instrument to be mailed to all South Carolina college and university presidents and all members of the South Carolina General Assembly. Participants will not be identified, and they are not at risk for civil or criminal liability. The survey instrument will not be mailed to minors.

Followup interviews will be conducted with a selected number of the participants in the mail survey. In addition, interviews will be sought with the president of the South Carolina Technical College System and his recently retired predecessor, and with the Chairman of the South Carolina Commission on Higher Education. The latter two of these officials have already expressed major interest in this proposed study.

If you are requesting permission to collect or study only existing data, documents, records, or biological specimens, skip to Question 9.

If you are applying for exemption under category 1, complete questions a, b and c, below.

- a. Is the research conducted exclusively in established or commonly accepted educational settings?

Yes No

- b. Does the research exclusively involve normal educational practices?

Yes No

- c. If the research includes mentally handicapped individuals, does the research involve any changes in the content, location, or procedures of instruction from those normally experienced by the participant?

Yes No Does not apply

If you are applying for exemption under categories 2 or 3, complete questions d, e, f, g and h below.

d. Does the research exclusively involve the use of educational tests, survey procedures, interview procedures or observation of public behavior?

Yes No

e. Is the information obtained recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants?

Yes No

f. Could any disclosure of the human participants' responses outside the research reasonably place the participants at risk of criminal or civil liability or be damaging to the participants' financial standing, employability, or reputation?

Yes No

g. If survey or interview techniques are employed, will all participants be 18 years of age or older?

Yes No Does not apply

h. If observations of the public behavior of minors are employed, will a researcher participate in the activities being observed?

Yes No Does not apply

If you are applying for exemption under category 6, complete questions i and j below.

i. Are only wholesome foods without additives consumed?

Yes No

j. Does the food consumed contain only food ingredients at or below the level and for a use found to be safe, or agricultural chemicals or environmental contaminants at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture?

Yes No

3. Describe the participants you plan to recruit and the criteria used in the selection process. Indicate if there are any special inclusion or exclusion criteria.

Description: The 230 participants in the mail survey are presidents of South Carolina colleges and universities (60) and members of the South Carolina General Assembly (170). The interview participants will be selected from this group and the Chairman of the South Carolina Commission of Higher Education and the present and immediate past Presidents of the South Carolina Technical College System.

Indicate the approximate number of participants to be recruited: 233

4. Describe how research participants will be recruited in the study. How will you contact them? Attach a copy of any material you will use to recruit participants (e.g., advertisements, flyers, telephone scripts, verbal recruitment, or cover letters).

Description: Names of mail survey participants will be taken from two publicly available mailing lists, the 2005 Legislative Manual and a list provided by the South Carolina Commission on Higher Education. No private data will be needed. The attached survey instrument and related correspondence will be sent to all South Carolina college and university presidents and to all members of the South Carolina General Assembly.

The interviewees will be selected from the above-named groups, with attention given to selections from each of the major groups--senators, representatives, presidents of four-year public universities, presidents of four-year private universities, and presidents of technical colleges. In addition, interviews will be sought with the current and immediate past President of the South Carolina Technical College System and the Chairman of the South Carolina Commission of Higher Education. The prospective interviewees will be contacted by way of the attached letter and Information Concerning Participation in a Research Study.

Are you required to obtain permission to access the participants or to access data that is not publicly available?

Yes No

If the answer is yes, provide a letter of support from the person authorized to give you access to the participants or to the data.

- Letter(s) of support not required.
 Letter(s) of support attached.
 Letter(s) of support pending and will be provided when obtained.

5. Describe the means you will use to obtain the data. Describe all procedures in which participants will participate.

Description: There will be two communications with participants in the mail survey (attached). The first communication consists of a transmittal letter, a letter from a colleague urging the person addressed to take part in the survey, Information Concerning Participation in a Research Study, a survey instrument, and a stamped return envelope. The second communication (also attached) is a postcard thanking those who have returned the survey instrument and requesting the others to return the survey instrument.

Participants in the interviews will be asked for permission to record their interviews, which are expected to last 15 to 20 minutes. It is anticipated that most interviewees will give permission to be quoted. If a significant number of the interviewees decline to be quoted for attribution, care will be taken to avoid identifying those participants. The qualitative interviews will be structured around the following questions:

1. The survey showed varying views regarding the qualification of technical college faculty. What is your view?
2. Some interviewees said the technical colleges are not real colleges. Would you care to comment on this point of view?
3. What is your opinion on State funding for technical colleges?
4. What is your view of the adequacy of articulation of courses between the technical colleges and the four-year universities?

If data collection instruments will be used, indicate the time necessary to complete them and the frequency of administration: The estimated completion time is 8-10 minutes.

Check all boxes that apply.

- Surveys distributed by mail or in person . Attach copies of the instruments. *
 Surveys distributed through the Web or through E-mail . Attach copies of the instruments. *
 Interviews face-to-face or by phone . Attach a copy of the interview questions. *
 Observation of public behavior.
 Observation of activities in school classrooms.

Other (Describe)

* If survey or interview questions have not been fully developed, provide information on the types of questions to be asked.

6. Describe how the proposed study presents no more than minimal risk to the participants. (Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations.)

Description: The survey questions relate to the participant's views on certain aspects of higher education, most of which may have been publicly stated by the participant. All responses will be kept confidential. The survey description offers participants the opportunity to opt out of any or all questions. There is no probability of harm or discomfort to the participants.

The questions for interviewees will explore the interviewee's views on higher education, and offer no probability of harm or discomfort to those being interviewed. Interviewees who give permission will be quoted directly.

7. Describe the measures you will take to protect the confidentiality of the information obtained. Investigators are required to protect the confidentiality of the information obtained during research, unless the participants explicitly agree to be identified and/or quoted. If participants will be identifiable either by name or through demographic data, how will you protect the identity of the participants and their responses, where will the data be stored and how will it be secured, who will have access to the data, and how will identifiers be maintained or destroyed after the study is completed?

Description: Participants in the mail survey will be promised complete confidentiality. No data will be released which could identify individual participants. Data will be accessible only to the Principal Investigator and Co-Principal Investigator. No identifiers of individual participants will be on the survey instrument.

Interviewees will be asked for permission to record their interviews and to allow direct quotation of their remarks. Recording of interviews will be erased at the completion of the related dissertation. Recordings will be under control of the Principal Investigator and the Co-Principal Investigator at all times.

8. Describe how you will inform participants about their participation. Use a style of language that simply and clearly explains the research to your participants. Attach a copy of the information you plan to provide to your participants (and their parents or guardians, if applicable). The following information must be included.
- A statement that the study involves research, an explanation of the purposes of the research, a description of the procedures to be followed, and the expected duration of the participant's participation.
 - A description of any reasonably foreseeable risks or discomforts to the participant.
 - A description of any benefits to the participant or to others that may reasonably be expected from the research.
 - A statement describing the extent, if any, to which confidentiality of records identifying the participant will be maintained.
 - A statement that participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled, and the participant may discontinue participation at any time without penalty or loss of benefits to which the participant is otherwise entitled.
 - An explanation of how to contact the principal investigator for answers to pertinent questions about the research.
 - A statement that participants may contact the Clemson University Office of Research Compliance at 864-656-6460 if they have questions regarding their rights as research participants.

In many cases, an informational letter or script can be used for exempt studies. A template for this letter may be found on the Forms page of the IRB web site. (See the first page of this document for the site address.)

- Informational letter attached. I will give each of the participants a copy of this letter.
 I am attaching a script that contains the information I will read to them.
 Other (Describe)

If you are requesting permission to collect or study existing data, documents, records, or biological specimens, complete Question 9.

9. a. What are the types of data or specimens?
Question #9 is not applicable.
- b. What is the source of the data or specimens?
- c. Are the data or specimens publicly available? (That is, can the general public obtain the data or specimens? Data are not considered publicly available if access is limited to researchers.)
Yes No
- d. If the data or specimens are not publicly available, are you required to obtain permission to access these? If the answer is "yes," attach a copy of the correspondence granting you permission.
Yes No Does not apply
- e. If the data or specimens are not publicly available, how are these identified when they are made available to you?
- i. Direct Identifier (e.g., subject name, address, social security number, or medical record number)
 - ii. Indirect Identifier (e.g., an assigned code that could be used by the investigator or the source providing the data or specimens to identify a subject, such as a pathology tracking number or a tracking code used by the source)
 - iii. No Identifier (i.e., neither the researcher nor the source providing the data or specimens can identify a subject based upon information provided with the data or specimens)
 - iv. Does not apply
- f. If (i) is checked above, will the direct identifiers provided with the data or specimens be removed and destroyed upon receipt?
Yes No* Does not apply
- g. If (ii) is checked above, can you readily ascertain the identity of the subject or associate the identity of the subject with the data or specimens?
Yes No Does not apply
- h. If (ii) is checked above and you can readily ascertain the identity of the subject or associate the identity of the subject with the data or specimens, will the indirect identifiers provided with the data or specimens be removed and destroyed upon receipt?
Yes No* Does not apply
- i. Will any data or specimens be collected from participants after the submission of this application? (Data or specimens are considered to "exist" if all of the data or specimens to be used for the research have been collected prior to the submission of this application.)
Yes* No

*Your research does not qualify for exemption from IRB review under category 4.

Appendix D

Pattern Matrix

	Component				
	1	2	3	4	5
Ever enrolled in SC TC?	-.011	-.272	.060	.335	-.156
Attend Seminar SC TC?	-.059	-.046	-.015	.724	.015
Ever had job trng course?	-.093	-.552	-.179	.315	.122
Visited at SC TC?	-.121	.218	.183	.368	-.174
Relative employed at SC TC?	.052	.032	-.063	.780	.144
Aware: 16 colleges? SD-SA	.127	-.189	-.114	-.108	.649
Aware: 50% all HE studs?	-.059	-.093	.143	.094	.846
Aware: Comm prog grth?	.073	.079	.613	-.385	.126
Aware: Custom training	.107	.190	.470	-.368	.059
Aware: 85% jobs require > HS?	-.094	.058	.075	-.410	.262
Aware: transfer courses offered?	.131	.103	.283	-.645	-.041
Aware: remediation offered?	.088	-.083	.332	-.318	.243
Aware: >75k students?	-.009	.142	.176	-.012	.675
Aware: SC TC accredited like 4yr?	.016	.215	.096	.019	.549
Aware: Most College called Commun?	.120	.113	.434	.140	.584
Aware: Supports New Jobs	.062	-.063	.843	-.058	.046
Aware: Helps Businesses Compete?	.035	-.094	.858	-.030	.111
Aware: Improve Qual Life?	-.001	-.034	.892	-.035	.114
Aware: Excellent Programs?	.232	-.064	.755	.070	.176
I would recommend SCTC to family etc	.598	-.032	.154	-.267	-.039
SCTC produces skilled grads SA_SD?	-.621	.018	.105	.234	-.225
SCTC studs acad prepared?	-.723	-.106	-.242	.044	-.151
Attracts Qual Studnets?	-.805	-.129	.037	-.016	.080
Strong Acad reputation?	-.900	-.154	-.061	-.068	-.005
Qual Faculty?	-.758	-.199	-.137	.111	-.058
Affordable Educ?	-.539	.057	.168	.314	-.172
Meets workforce needs?	-.537	.331	.055	.065	-.398
Good articualtion with 4-yr coll?	-.697	.072	-.280	-.243	.254
TC Rep remedialEd	-.589	.522	-.001	-.123	-.128
View 4yr Univ fndg	-.014	-.727	.436	-.029	-.243
View TechCol fndg	.182	-.298	.145	-.540	-.080
View P12 funding	-.230	-.785	.044	-.212	-.061

Extraction Method: Principal Component Analysis.
 Rotation Method: Oblimin with Kaiser Normalization.
 A Rotation converged in 23 iterations.

Appendix EInterview format

Dear -----:

You have agreed to be interviewed regarding certain aspects of Higher Education in South Carolina, especially as it relates to the colleges in the South Carolina Technical College System. The interview will begin by showing you a summary of the responses to a recent survey, and asking for your comments on those results. Although the form of each interview will be relatively unstructured, the following questions are typical of the questions that will be covered in your interview.

1. Here is a list of the strengths of South Carolina technical colleges, as reported in the recent survey. Please comment on these perceived strengths.
2. Please give your comments on each of the perceived weaknesses of South Carolina's technical colleges:
 - A. Poor academics.
 - B. Unqualified faculty.
 - C. "Not a full university"
 - D. The technical colleges are not attracting qualified students.
3. What is your view of the suggestion that South Carolina should change the names of its technical colleges to "community colleges"?
4. Do you have any further comments on any aspect of this survey?

You have the right to terminate this interview at any time. Unless you give specific permission to be quoted for attribution, your answers will be kept in strictest confidence.

 With regard to the interview conducted by Charles L. McLafferty on _____(date), my wishes are as follows:

Yes No I am willing to have my remarks recorded.

Yes No I am willing to be quoted for attribution.

Signature

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