AN INSTITUTIONAL EFFECTIVENESS STUDY

OF THE

NORTH CAROLINA COMMUNITY COLLEGES

by

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(ABSTRACT)

Regional accrediting agencies and state governments are requiring colleges to evaluate the effectiveness of their institutions. In North Carolina the General Assembly mandated the State Board for Community Colleges to develop a list of critical success factors that measure the effectiveness of the North Carolina system.

The purpose of this study was to assess that System's critical success factors as they relate to individual community colleges. This study determined which critical success factors were important and which ones were feasible to use by individual colleges in their institutional effectiveness plans.

A Critical Success Factor Questionnaire was used to survey presidents and institutional effectiveness officers (IEOs) of each of the 58 community colleges. Survey data were analyzed using means, standard deviations, Spearman's rank correlation coefficients, and Kendall's coefficient of concordance. The findings indicated that there was agreement between presidents and institutional effectiveness officers

concerning the importance and feasibility of use of the 34 critical success factors. They also agreed that the top critical success factors were success on licensure exams, employer satisfaction, and student persistence.

Small, medium and large institutions had moderate agreement for the factors in the categories of quality, access, education continuum, community service, and program management/accountability for importance. A correlation 1.0 was found in the workforce category indicating total agreement between institutions regardless of size.

In comparing the responses to the feasibility of using the factors in the institutional effectiveness plans, moderate agreement was found between the different sized institutions in the categories of quality, access, education continuum, and community service. There was strong agreement on the ranking of the workforce factors and almost no agreement on ranking of program management/accountability factors.

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An Institutional Effectiveness Study of the North Carolina Community Colleges

Introduction

Community colleges in the United States have grown rapidly and have experienced a major transformation over the last 25 years. They have grown in number, size, and scope of their respective missions. In an attempt to serve various publics, community and technical colleges have attempted to respond to all of educational needs in their service area. They have tried to serve the unique needs of their communities. As a result, questions have arisen as to the effectiveness with which the colleges serve their constituencies (Grossman & Duncan, 1988).

Community and technical colleges often have had difficulty in evaluating their effectiveness in meeting their own goals. Unlike public schools and 4-year colleges, which have traditional and well-established missions, the community colleges are not well understood for a variety of reasons (Eaton, 1988). The diversity of their missions and service populations have contributed to the difficulty of measuring institutional effectiveness within a multi-institutional system such as North Carolina. Comparisons which utilize institution to institution methods are flawed in evaluating community colleges due to the diversity of each school (Grossman & Duncan, 1988).

Background

Impetus for a quest for quality in higher education has been provided by the six regional accrediting agencies which have gradually moved toward a greater emphasis on institutional effectiveness as a criterion for accreditation. In 1984 the Southern Association of Colleges and Schools (SACS) Commission on Colleges approved a major revision of the standards used in evaluating the region's post-secondary institutions (McCullough, 1986).

According to SACS, the level of institutional quality depends on the institution's educational processes and resources and the institution's use of those processes and resources to achieve established goals. Institutions have an obligation to evaluate effectiveness and use the results to establish adequate procedures for continuous planning and evaluation (SACS, 1988). According to SACS, this planning and evaluation process should include:

1. broad based involvement of faculty and administration;
2. the establishment of a clearly defined purpose appropriate to collegiate education;
3. the formulation of educational goals consistent with the institution's purpose;
4. the development of procedures for evaluating the extent to which these educational goals are being achieved; and
5. the use of the results of the evaluations to improve institutional effectiveness. (SACS, 1988, p. 13-14)

The North Carolina Community College System staff along with local community college leaders developed a process to determine the effectiveness of the statewide system as well as each local community college. In 1988, the North Carolina State Board of Community Colleges developed a statewide planning process. The process was entitled **Planning For Our Future.** One of six major themes listed in **Planning For Our Future** was "Managing for Effectiveness." Within this theme, one of four goals was "to assure through a planning process that the community college system has clearly identified priorities, strategies for achieving them, and a means of evaluating effectiveness" (Commission on the Future, 1988, p. 33). Dual emphasis was placed on measuring the effectiveness of the system as well as that of each local institution.

In 1989, the North Carolina General Assembly mandated that the State Board for Community Colleges develop a list of "Critical Success Factors" (CSFs). This CSFs list was intended to be a basis for collecting data from local institutions. The accumulated data was used as a measure of the effectiveness of the North Carolina Community College System collectively. In that same mandate, each local institution was required to develop an institutional effectiveness plan tailored to their respective mission statements. This same mandate for local institutional effectiveness required that local institution plans be

consistent with Southern Association of Colleges and Schools institutional effectiveness criteria and provide for collection of data as to demonstrate local institutional effectiveness. In July 1989, the CSFs list was adopted by the State Board for Community Colleges (Appendix A) (Smith, 1990).

It is intriguing that while the Critical Success Factors were mandated by the General Assembly to measure the accountability of the system, each local community college was not required to use the CSFs list in the development of their local institutional effectiveness plans. If the systems' accountability and effectiveness were to be judged based on Critical Success Factors and the local institutions were not required to use the CSFs in development of their local effectiveness plans, the system and local institutions may not be compatible with each other in the data or information that will be available for planning or measuring effectiveness. Since each community college has some unique features, reason suggested that not all local community colleges would utilize all of the CSFs in their local institutional effectiveness plans. The central issue for this research effort was to determine which of the critical success factors each institution decided to use as an important measure of its effectiveness, which are not important, and which critical success factors each institution perceived as feasible for use in its

institutional effectiveness plan.

Consensus among local community college leaders was an essential element if their institutional effectiveness planning efforts were to be successful. Therefore, a secondary issue for this research effort was to determine agreement among selected community college leaders on which of the thirty-four critical success factors were important and which were feasible to use in local institutional effectiveness plans.

Assumptions

In conducting this study the following assumptions were made:

1. Community colleges in North Carolina are involved in writing institutional effectiveness plans for their colleges;
2. Community colleges in North Carolina are incorporating institutional effectiveness plans into long-range planning goals;
3. The respondents are capable of assessing which critical success factors are being used at their institutions.

Problem Statement

Community colleges have evolved as institutions serving multiple purposes including transfer preparation, career education, continuing education, and community service. Some policy makers and educational leaders questioned whether this diversity enhances or impedes educational

excellence in these institutions (Eaton, 1988).

Presidents and institutional effectiveness officers are involved in the college's planning process. Agreement among these professionals is important and will contribute to the effectiveness of the plan.

Therefore, the procedural problem studied was to determine which of the critical success factors were important to each of the 58 community colleges in North Carolina and which of the critical success factors were feasible to use in their effectiveness plans. A second part of the problem was to determine agreement between presidents and institutional effectiveness officers as to whether or not the critical success factors were important or not important and which were feasible or not feasible to use in the development of the institutional effectiveness plans.

Purpose

The purpose of the study was to assess the North Carolina Community College System's critical success factors as they relate to individual North Carolina community colleges. This study may help determine which critical success factors individual community colleges perceive as important to include in their college's institutional effectiveness plans. The study also will determined if presidents and institutional effectiveness officers agree on the importance of the critical success factors that were

used by individual colleges in the institutional effectiveness plans.

The study:

1. determined which critical success factors were important, as evaluated by presidents and institutional effectiveness officers,

2. determined if there was general agreement between presidents and institutional effectiveness officers regarding the importance of the critical success factors,

3. determined which critical success factors were perceived feasible to use in the development of the college's institutional effectiveness plans as evaluated by presidents and institutional effectiveness officers,

4. determined if there was general agreement between presidents and institutional effectiveness officers regarding the feasibility of using the factors in the college's institutional effectiveness plan,

5. determined if a relationship existed between institutional size and the importance of the critical success factors used in the development of the college's institutional effectiveness plan,

6. determined if a relationship existed between institutional size and the feasibility of using these critical success factor in the institutional effectiveness plan, and

7. synthesized the literature on institutional effectiveness.

Research Questions

Specifically, the following questions were addressed:

1. Which critical success factors were deemed to be important for the colleges to use in institutional effectiveness plans, and which ones were deemed not to be important?

2. Was there a general agreement between presidents and institutional effectiveness officers regarding the importance of critical success factors being used in institutional effectiveness plans?

3. Of the 34 critical success factors proposed by the North Carolina Community College System which critical success factors were perceived to be feasible for use by individual community colleges in their effectiveness plans?

4. Was there a general agreement between presidents and institutional effectiveness officers regarding the feasibility of using the critical success factors in the college's institutional effectiveness plan?

5. Was there a relationship between the size of the institution and the perception of the importance placed on the critical success factors utilized in the institutional effectiveness plan?

6. Was there a relationship between the size of the institution and whether or not the critical success factors were deemed feasible for use in their institutional effectiveness plans?

Delimitations

This study was delimited in the following manner:

1. The respondents were North Carolina Community College presidents and institutional effectiveness officers.

2. The study addressed the critical success factors of North Carolina Community Colleges that underlie effectiveness.

Limitations of the Study

This study was limited to the community colleges in the state of North Carolina; therefore findings can be generalized only to that group. The study was limited to the

34 critical success factors proposed by the North Carolina Community College System.

Definitions

Institutional Effectiveness - articulating the mission of the college, setting goals, defining how the college and the community will know when the goals are being met, and using the data from assessment in an ongoing cycle of goal setting and planning (Grossman & Duncan, 1988).

North Carolina Community College System is a statewide organization of public two-year post-secondary educational institutions with an open-door admissions policy (North Carolina State Board of Community Colleges, 1988).

Community College Educational Blueprint is the plan of addressing the 34 recommendations of the Commission on the Future adopted by the North Carolina State Board of Community Colleges.

Critical Success Factors are the "key things that must go right for the system to flourish and achieve its goals" (Smith, 1990).

Educational blueprint is the "term used to refer to the institutions' own institutional effectiveness plans" (Wilson, 1990).

Administrators for the purpose of this study are those individuals employed by the North Carolina Community Colleges as presidents and institutional effectiveness officers.

College institutional effectiveness plan refers to the institutions' own plans, which should be developed in accordance with Southern Association of Colleges and Schools requirements for achieving institutional effectiveness through planning (Wilson, 1990).

Need for the Study

In December, 1984, the Commission on Colleges of the Southern Association of Colleges and Schools approved a new criteria for evaluating institutions, that included a section on Institutional Effectiveness. The Institutional Effectiveness section mandated that institutions evaluate effectiveness and use the results to establish adequate procedures for continuous planning and evaluation.

In 1988, the report of the Commission on the Future of Community Colleges, Building Communities, recommended that "each community college develop a campus-wide assessment of institutional effectiveness. Such a program should include a periodic reexamination of mission and goals, specific

programs, individual student outcomes, retention rates, and the performance of graduates" (AACJC, 1988, p. 47).

Local community college officials in North Carolina were asked in 1990 to submit institutional effectiveness plans called "Educational Blueprints." However, the North Carolina community colleges have not been assessed to determine which critical success factors were currently being used by individual North Carolina Community Colleges in their institutional effectiveness plans.

Little was known about which critical success factors were being used in institutional effectiveness plans of each of the 58 community colleges of North Carolina. Nor was much known regarding the importance placed on various critical success factors of institutional effectiveness by various professionals in the institutions. This study provided the North Carolina Community College System with information about which critical success factors the community colleges in North Carolina used in their institutional effectiveness plans. The study also provided the system with information about what professionals in the community colleges in North Carolina see as important critical success factors that were feasible to be used in the institutional effectiveness plans.

This study also provided the North Carolina Community College system with a basis for similar research in an effort to further investigate and improve institutional

effectiveness at the state's community colleges and evaluate the progress of institutional effectiveness from a qualitative stand point.

Organization of the Study

Chapter 2 will be a review of the literature, chapter 3 will include the research design of the study, while chapter 4 will be the presentation and discussion of the research data. Finally, Chapter 5 will be the summary, conclusions, and recommendations based on the data analysis.

Chapter 2

Literature Review

The purpose of this study was to assess the North Carolina System's Critical Success Factors as they relate to individual North Carolina Community Colleges effectiveness plans. Comparisons of the views of presidents and institutional effectiveness officers towards the importance of the critical success factors and the feasibility of using the critical success factors in institutional effectiveness plans were made. The researcher used ERIC searches as well as university libraries in North Carolina and Virginia to select literature for review.

In this literature review, effectiveness is defined first. Next, there is a discussion of organizational effectiveness. Third, the effectiveness criteria in accrediting agencies is reviewed. Fourth, there is a discussion on outcomes measurement. Finally, critical success factors as they relate to North Carolina Community Colleges are discussed.

Defining Effectiveness

Welker (1990) has already found there was not a uniform definition of effectiveness found in the literature. However, many educators and authors have attempted to define it.

The earliest models of effectiveness focused on growth and the reputation of the institution compared with other like institutions. Now, a point has been reached in effectiveness modeling where it is possible to make a distinction between different approaches to measuring effectiveness (Alfred & Kreider, 1991).

Defining effectiveness is a process of refinements that can be achieved by starting from where community colleges are and determining where community colleges are intending to go (Berquist & Armstrong, 1986; Williams, 1988; Alfred & Kreider, 1991). Effectiveness can be many things to many people (Alfred & Kreider, 1991).

The Alliance Model of institutional effectiveness (1988) describes the articulation and measurement of the mission of a college, defines how the college and the community will know when the goals are being met and by using the data from such assessment in an on-going cycle of goal setting and planning. The mission statement generates the definition of specific institutional goals that must be interpretable in terms of specific indicators. These indicators when measured, yield data about effectiveness of the realization of the goal. Effectiveness can, therefore be improved or changed as the result of the data, yielding new indicators. The indicators of institutional effectiveness are outcome measures rather than an evaluation of resources and/or processes. The indicators are not meant to stand alone, but

rather held in context of the the college's mission and goals (Grossman & Duncan, 1988).

Georgopolous and Tannenhaum (1957), Doucette and Hughes(1990), and Alfred and Kreider (1991) have also linked effectiveness with the mission of the college, emphasizing whether or not the college fulfills its mission, goals, and objectives. Ewell (1989) saw effectiveness as an assessment of the degree to which, regardless of cost, the outcomes measured up to the original intention of the college.

Some writers equate effectiveness with student achievement. An institution is effective if it fosters the development of the student which results in a measured difference between the student's performance upon entry and exit from the institution (Braskamp, 1989; Vaughn & Templin, 1989).

Vaughn and Templin (1989) said the quality of an institution is based on not the performance level of the student it admits, but on the changes or improvement in performance that the institution is able to effect in its students. Williams (1988) sees this as the development or improvement of appropriate services to demonstrate this change in the student.

The term "institutional effectiveness" has frequently been used as an umbrella for issues such as quality control, accountability, student outcomes, student success, and

various measures of organizational efficiency (Kreider, 1990). Effectiveness and efficiency have been viewed as synonymous in the educational setting. Effectiveness has been viewed as efficient use of resources or strictly in terms of output such as success rates in four year colleges, transfer rates, job acquisition, and income level. (Malone, 1985). In isolation resources fail to identify the effect of the college on the students. If institutional effectiveness is to be achieved there must be some sense of what effectiveness is and what it would look like (Kreider, 1990).

Institutional effectiveness according to Williams (1988) is the measurement of the fulfillment of commonly agreed upon values which are determined through institutional planning. McCabe and Roberts (1988) said institutional effectiveness is knowing what it is you want to accomplish, figuring out how well you are doing it and using that information to improve the institution.

Judging effectiveness is something that everyone does on an on-going basis. Every individual evaluates the performance of the organization based on how the organization affects that person (Zammuto, 1982). When a specific end is attained we say the action is effective (Bernard, 1968) or effective refers to the degree to which the program succeeds in doing what was intended (Lawrence, 1971).

A key to effectiveness is a creative organizational

climate that supports the renewal and development of all staff and the vitality of the organization itself (Alfred & Linder, 1990). Effectiveness can be the extent to which internal priorities coincide with the priorities of the external groups that provide the funding and support for the institution (Armenta, 1982). An effective institute is one that simultaneously fosters the development of its members and fulfills its shared collective objectives. It emphasizes the individual as well as the organization (Braskamp, 1989).

Ewell (1989) said effectiveness in transfer education implies that students possess foundation knowledge in a range of disciplines and requisite skills of collegiate functioning to successfully pursue baccalaureate study. Effectiveness in occupational/technical education implies that students possess technical knowledge and competence to perform effectively in identified fields of employment.

Effectiveness in developmental education implies that students possess knowledge and skills to successfully undertake college level work. Such basic skills generally include reading, writing, and computational skills. Effectiveness in community service implies that individual users of college-provided services are satisfied with the services they receive, and that members of the community are supportive of both the presence and the activities of the college. The determination of satisfaction among the

users of the college will depend on the nature of the service provided and how the evidence of satisfaction is collected (Ewell, 1989).

Alfred and Linker (1990) wrote in "Rhetoric to Reality" that effectiveness in community colleges is determined by the presence of paradox. "To be effective an institution must possess attributes that are simultaneously contradictory, even mutually exclusive. Paradox exists when a community college employ what seems to be contradictory yet equally necessary programs, policies and delivery systems to adapt to rapidly changing conditions and needs in the service region" (p. 2). Examples are open-door and selective admissions policies used concurrently, and traditional and non-traditional strategies for delivery of instruction (Alfred, 1989).

Institutional effectiveness according to Hudgins of Midland Technical College, South Carolina (1990) is more than a synonym for program evaluation or assessment of student outcomes. Institutional effectiveness is the key things that must go right in order for the college to flourish and achieve its goals. It is an institutional perspective that focuses on accurate planning, the assessment of accomplishments and the use of assessment results for planning and decision making.

Midland Technical College in addressing the question "How effective is our institution?" used six broad

performance characteristics: accessible, comprehensive programs of high quality, student satisfaction and retention, post-education satisfaction and retention, post-education satisfaction and success, economic development and community involvement, and sound, effective resource management, and dynamic organizational involvement and development. At South Carolina's Midland Community College these performance characteristics are called Critical Success Factors.

The North Carolina Community College System used the Midland Technical College's concept of institutional effectiveness previously defined as the key things that must go right in order for the system to flourish and achieve its goals (Smith, 1990; Oliver, 1990) to develop the criteria for evaluating institutional effectiveness in North Carolina. The six broad critical success factors used by North Carolina are quality, access, education continuum, workforce development, community service, and program management and accountability (Smith, 1990). In order to monitor and measure college performance relative to each critical success factor, indicators of effectiveness and a set of measurable criteria was developed for each factor (Oliver, 1990).

The critical success factor concept used by the North Carolina Community College System is important in determining the effectiveness of the colleges. Because the

North Carolina Community Colleges administrators evolved from diverse educational backgrounds, local community college leaders have varied views regarding the critical success factors and the feasibility of use for college effectiveness plans. Therefore, it will benefit community college leaders in North Carolina to know where agreement and disagreement exist between these officials.

Organizational Effectiveness

Institutional effectiveness is best understood as a delimitation of the broader construct of organizational effectiveness. All general theories of organizations contain criteria for measuring effectiveness at least by implication. There is no universal theory of organizations and no single accepted approach to the evaluation of effectiveness (Roberts, 1987).

For over 50 years, organizational researchers have been concerned with the "effectiveness of organizations", yet confusion persists regarding what organizational effectiveness is. It has rarely been possible to compare studies of effectiveness (Campbell, 1973; Steers, 1975). Effectiveness has been a label pinned on a wide variety of organizational phenomena from a wide variety of perspectives (Cameron, 1978).

The study of effectiveness has taken many turns from 1970 to the present. The early literature emphasized goals

and recent movements has turned toward student outcome assessment (Welker, 1990). The use of the term organizational effectiveness appears to differ depending on the particular aspect of the organization referred to, assumptions made about the nature of the organization, the organizational constituencies under consideration and the types of organizations under study (Cameron, 1978).

Cameron and Whetton (1987) wrote that there was no singular model or theory of organizational effectiveness. Organizational effectiveness in literature was examined in terms of goals and organizational systems, metaphors, and processes. The absence of strong theory has nurtured empirical studies of organizational effectiveness. It is not likely that there will be convergence on a single theory. Rather than attempting to test general theories researchers need need to concentrate on in-depth micro studies of specific organizational outcomes.

A distinguishing characteristic of nearly all variables which have been used as criteria of effectiveness is that whether directly or indirectly they tie in with organizational objectives (Georgopolous & Tannenbaum, 1957; Cameron, 1978). Relevant effectiveness criteria may change over the life cycle of an organization. Criteria at one organizational level may not be the same as those at another level (Georgopolous & Tannenbaum, 1957; Price, 1972; Weick,1977) and the relationships among various

effectiveness dimensions may be difficult to discover (Seashore, Indik & Georgopolous, 1960; Cameron, 1978).

All organizations attempt to achieve certain objectives and to develop group products through the manipulation of given animate and inanimate facilities. Definitions of organizational effectiveness should take into consideration two elements: the objectives of organizations and the means through which they sustain themselves and obtain their objectives (Georgopolous & Tannenbaum, 1957).

Outputs and goal accomplishments are probably the most widely used organizational effectiveness criteria. The earliest studies of effectiveness were guided by a rationalistic model in which goal accomplishment was emphasized as the only legitimate criterion for organizational effectiveness (Cameron, 1978).

Organizational effectiveness criteria are likely to differ depending on whose viewpoint is taken. There is general agreement that effectiveness criteria always represent someone's values and biases, but there are conflicting opinions about who should determine effectiveness criteria and who should provide data for their measurement (Steers, 1975). The identification of organizational effectiveness criteria, the measurement of those criteria, and a standard to judge movement along those criteria seem to be critical dimensions in any effectiveness definition (Goodman & Pennings, 1977; Cameron, 1980).

There are four major approaches to measuring organizational effectiveness. Output and goal accomplishment are probably the most widely used criteria of effectiveness (Georgopolous & Tannenhaum, 1957; Cameron, 1978). Not only were the earliest approaches to effectiveness guided by a rationalistic goal model but recent writers have continued to advocate accomplishment of goals as defining characteristics of organizational effectiveness (Cameron, 1978).

This rationalistic approach viewed organizations as purposive entities with clearly defined and mutually agreed upon goals and with internal structures consistent with the demands of the task. Organizations were judged to be effective if they mobilized internal resources to accomplish stated objectives (Cameron, 1978).

A second approach is the system resource approach model or the natural systems approach introduced by Yuchtman and Seashore in 1967. Under this approach an organization's effectiveness is judged on the extent to which it acquires needed resources (Cameron, 1978). This approach also focused on the interaction of the organization with its environment, and defines organizational effectiveness as the ability of the organization to exploit its environment in the acquisition of scarce and valued resources. Organizational inputs and acquisition of resources replace goals as the primary criteria of effectiveness (Cameron, 1978).

The third approach to effectiveness focused on the internal processes and operations of the organization. Effective organizations are those with an absence of internal strain, whose members are highly integrated into the system, whose internal functioning is smooth and typified by trust toward individuals, and where information flows smoothly both vertically and horizontally (Steers, 1977; Pfeffer, 1977; Cameron, 1978).

The fourth approach to organizational effectiveness is the strategic constituencies approach or the participant satisfaction model. This approach defines effectiveness as the extent to which all of the organization's strategies and constituencies are at least minimally satisfied. In this approach the effectiveness of an organization is based on how well it responds to the demands and expectations of its constituencies (Cameron, 1980).

Effectiveness based research in higher education has been limited to assessments of goal achievement and to assessment of the extent to which institutions possess particular effectiveness traits (Cameron, 1984). Goal centered views makes a reasonably explicit assumption that the organization is in the hands of a rational set of decision makers who have in mind a set of goals that they wish to pursue. These goals are few in number to be manageable and can be defined well enough to be understood (Campbell, 1977).

In institutions of higher education unique organizational characteristics have presented special problems for researchers in selecting and assessing for organizational effectiveness (Cameron, 1978). Whether or not an organization is effective or perceived as effective is based on its leadership, its administration. If administrators determine priorities, develop policies and implement actions, then their role is clearly significant. The degree to which administrators carry out actions congruent with the perceptions of effectiveness held by the external groups that fund a college institutional survival is enhanced (Armenta, 1982).

Institutions of higher education are effective to the extent to which they produce valued and desired outcomes, maintain organizational viability and acquire needed resources without destroying the environment (Cameron, 1978). An organization's effectiveness can rarely improve until it is clear what effectiveness is, and what criteria have been used to define it. A process of asking critical questions is a prerequisite to improving organizational effectiveness, because it helps guard against unsystematic self-perpetuating, conclusion-confirming evaluations (Cameron, 1980).

Accreditation

Community, technical, and junior colleges are the nation's premier teaching institutions and have proven that they are adaptable, responsive, knowledgeable, and reflective of the communities in which they operate. However, there is increasing pressure from the states, the federal government, and from accrediting bodies for articulation for accountability and for outcomes measures. The question is asked "How does an institution know that it is effective in accomplishing its mission and goals?" (AACJC, 1990).

To help its member colleges answer this question more effectively the American Association of Community and Junior Colleges (AACJC) agreed to cooperate with agencies and organizations to define and refine measures of institutional effectiveness. The AACJC states it will continue to stress completion of associate degrees as a fundamental standard of excellence in educating students for employment or pursuit of a baccalaureate degree (AACJC, 1990).

In the United States, quality in higher education is evaluated, maintained, and strengthened by a system of voluntary peer accreditation. This system functions through numerous accrediting agencies and involves a sequence of procedures which include:

1. The development of evaluation standards and guidelines,

2. A self-analysis by an institution or unit of an institution,

3. An on-site visit by a group of peers to validate and compliment the self-study,

4. The judgment by an elected accrediting commission of educational quality as evidenced by stated objectives and/or agreement with predetermined standards (Petersen, 1979).

Debates over the status of American higher education has been founded on concepts of excellence, quality, academic standards, and accountability. Regional accrediting agencies for post-secondary institutions have gradually moved toward a greater emphasis on institutional effectiveness as a criterion for accreditation (Moore, 1986).

In recent years, all six regional accrediting agencies have begun to require colleges and universities to demonstrate their educational effectiveness in reaccreditation reviews. This is a shift from traditional emphasis on available resources (inputs) to educational effectiveness (outcomes) (Ewell & Lisinsky, 1988). Resource measures had as a primary basis for accreditation the equating of quality with an institution's resources-bright students, highly qualified faculty, extensive library collections, and plentiful dollars. Now the trend is toward requirements for greater precision in the statement and assessment of educational outcomes (Moore, 1986).

In 1984, the Commission on Colleges of the Southern

Association of Colleges and Schools (SACS) approved a major revision of the standards used in evaluating the region's post-secondary institutions. The new criteria included a section on "Institutional Effectiveness". This criteria stated that "the level of institutional quality depends not only on an institution's educational processes and resources but also on the institution's successful use of those processes and resources to achieve established goals. Institutions have an obligation to all constituents to evaluate effectiveness and to use the results in a broad based, continuous planning and evaluation process" (SACS, 1988, p. 13).

The "Criteria Manual" of SACS divided the concept of institutional effectiveness into two main areas, planning and evaluation. Even though the accrediting agency had no interest in defining any specific format for accomplishing the planning and evaluation process, the institution was expected to define its goals and establish a process which included broad-based involvement of faculty and administration, and establishment of a clearly defined purpose. This purpose was to be appropriate to collegiate education, educational goals that are aligned with the institution's purpose, and the development of procedures for evaluating the extent to which these educational goals are being achieved, and the use of the evaluation results to improve effectiveness (Kern, 1990). SACS also recognized

institutional research as indispensable to the planning and evaluation process. All institutions are mandated to engage in continuous study, analysis and appraisal of their purposes, policies, procedures and programs (Kern, 1990).

All accrediting agencies have recognized the need for better planning and the necessary linkage between the planning process and new measures of institutional effectiveness. According to the "Resource Manual on Institutional Effectiveness" of Southern Association of Colleges and Schools Commission on Colleges. "The assessment of institutional effectiveness essentially involves a systematic, explicit, and documented comparison of institutional performance to institutional purpose" (p. 21, Bryant, 1989).

To meet the requirement for institutional effectiveness, an institution is required to state the purpose and mission of the institution and establish goals. These goals will allow the institution to meet that purpose, establish a mechanism to evaluate the goals and take resulting information and use it to make decisions about the future direction of the institution (AACJC, 1988).

A 1987 survey by Boyer reported that two-thirds of all states have formal assessment initiatives for their public institutions of higher education. These initiatives range from encouraging institutional action to statewide monitoring and mandated statewide testing. Therefore

accrediting agencies are receiving support from state legislatures and higher education officials (Roger & Gentemann, 1989).

The responses to concerns about effectiveness have been pursued at the state level through regulation or statute. Most current state level approaches to assessment stress student achievement and mastery of those basic and advanced intellectual skills that are considered a prerequisite for employment (Ewell & Lisensky, 1988).

Some states incorporate assessment or outcome measurement into existing statewide planning, quality control, or accountability mechanisms such as master planning, mission approval or program review. Maryland and North Carolina have initiatives in place to monitor student retention, satisfaction, job placement of college graduates and economic development (Boyer, 1987).

A major force in educational reform has been the activity of state legislatures across the country. Legislative bodies have appointed select committees, commissioned reports, and have acted on reforms in educational finance, access, curriculum, faculty qualifications, admission and graduation requirements, and a variety of other related areas (Moore, 1986).

The Commission on Higher Education expects that all accredited institutions adopt appropriate strategies for assessment of student outcomes and institutional

effectiveness. The Commission is convinced that carefully devised longitudinal studies having faculty input will provide the most effective means for judging institutional effectiveness and student outcomes (Simmons, 1988).

Accreditation and state mandates are a means of encouraging improvement of educational endeavors. They have greatly assisted in the development of excellence in post-secondary education (Petersen, 1979).

Assessing Effectiveness and Accountability

For generations, the American people have thought that our colleges and universities are worth what they cost. The idea has been widely accepted that higher education produces benefits for individuals in the form of personal development, economic opportunity, rich satisfaction, and benefits for society in the form of political, economic, and cultural advancement. Recently the public has become more skeptical toward higher education. Many argue that the costly enterprise of higher education is so over extended that the value of its outcomes does not justify the amount of resources employed and that public subsides should be curtailed. There are insistent calls for accountability, meaning reporting of specific outcomes as well as formal accounting for expenditures (ASCCC et al., 1988).

Several states in the nation have addressed the issues of decreasing dollars and the changing student population by implementing formal and comprehensive accountability

programs in their educational institutions. Some of those initiatives were created by lawmakers and some by educators (ASCCC et al., 1988).

The early literature pointed out that a number of problems were obstacles to assessment of effectiveness in undergraduate education. These were:

(1) The difficulty to specify concrete measurable goals and outcomes in higher education,

(2) The evaluation of institutional effectiveness produces skepticism and defensiveness in the academic community,

(3) The financial concerns of colleges and universities have led to efficiency research rather than effectiveness research, and

(4) The applicability of the concept of organizational effectiveness to colleges and universities has been questioned (Steers, 1975).

Effectiveness for college and universities lies on a continuum. At one end is high effectiveness and at the other end is ineffectiveness and in the middle lies basic effectiveness. In order to assess one end of the continuum or the other qualitatively different characteristics must be considered (Cameron, 1984).

Colleges today are confronting significant challenges requiring enormous human and financial resources. Those resources must be effectively used and effectiveness must be demonstrable to justify sufficient public support to get the job done. It is clear that all institutions that compete for public support and for student enrollment will bear the burden of proof that they are making good on their promise

that they are delivering quality education (ASCCC, 1988).

From the post activities of a handful of institutions, currently 75 percent of community colleges are implementing outcomes assessment in one form or another. A small number of state initiatives began in the mid-1980s. Now almost three fourths of the states are asking public institutions to do something about outcomes assessment (Banta, 1990).

In 1984, state coordination boards in Virginia and New Jersey began to use incentive funding to encourage public institutions to consider assessing student outcomes. Led by the Southern Association of Colleges and Schools, in the mid 1980s, virtually all of the regional accrediting bodies moved to include outcomes assessment in their approval criteria. In 1988, the U. S. Secretary of Education implemented a regulation that accrediting bodies must include outcomes assessment in their accreditation criteria (Banta, 1990).

Although many colleges are in the business of formal measurement in some fashion, there is little agreement about what measures should be considered. Few instruments for measurement exist, (Hammons, 1987; Grossman & Duncan, 1988) fewer still that measure appropriate aspects of the role of the community and technical college.

What should be measured? Moore (1986) and Ewell (1988) state that outcomes should be measured and they should emerge directly from the mission statement that each college

develops. Richardson (1987) also urges a focus on outcomes. McClenney and McClenney (1988) argue that measures should be made across institutions regardless of size or location. They suggest that common purposes and issues will outweigh cross-college differences and that measurements should revolve around explicit statements of purpose.

Carol Boyer of the Education Commission of the States has defined assessment as any process of gathering concrete evidence about the impact and functioning of undergraduate education. Standardized testing and follow up surveys are components of assessment. Effectiveness as defined by Boyer is the extent to which institutions of higher education accomplish their intended purposes or achieve their desired ends (ASCCC et al., 1988).

There are four reasons why there is an interest in assessment.

(1) Assessment can be a powerful lever for institutional change,

(2) Assessment can be a powerful tool for getting faculty to reassess curriculum,

(3) Assessment forces institutions to come to agreement on the types of students they are serving, what they want students to know, and how evidence can be collected to achieve their goals, and

(4) Assessment can maintain public confidences in higher education (ASCCC, 1988).

Nielson and Polishook (1990) assert that the concept of assessment is a result of the failure of educators to teach

effectively rather than the educational weakness of undergraduates or from inadequate government funding to education. Assessment of institutional effectiveness is only one tool which can be used to evaluate educational concerns in the United States. Hockaday and Friga (1989) said that institutional effectiveness is concerned with three elements-Aim, Assessment and Action. The anchor point for institutional effectiveness is clarity of purpose or aim of the program. Aim means long- or short-range objectives, goals, or any other descriptors which provide direction to the program. Assessment determines the current effectiveness of the program. Is it accomplishing what was intended? What is the relationship between accomplishment and intention? To what degree is the program effective? Action refers to the changes needed in a program if it is to be improved (Hockaday & Friga, 1989).

Assessment is a means for providing information about the teaching and learning process. Feedback helps to improve the effectiveness with which students, faculty, and the institution carry out their work. The values of an institution are often revealed by the information it gathers and uses (ASCCC et al., 1988). Colleges can benefit by assessment in several ways. It can lead to healthy academic introspection. It can provide a context for academic planning. It can lead to improvement in teaching and learning. It can prepare colleges for accreditation studies.

It can improve student retention, public relations and fund raising (Hockaday & Friga, 1989).

At the heart of the institutional effectiveness effort, is the measurement of key educational results which clearly emanate from the institutional statement of purpose. This direct connection from stated intent to actual results should be evident at all levels and for all units of the college. The starting point for the institutional effectiveness effort then is to determine if the mission is providing appropriate direction for the institution and to evaluate whether the bond between stated purpose and actually functioning is clear and comprehensive (Quninley, 1990).

The key purposes of assessment are to ask important questions about student learning, to gather some meaningful information on these questions, and to use the information for academic improvement. Discussions about assessment issues in higher education consistently include two conclusions: assessment tries to determine what students actually achieve in their college study and assessment links educational objectives to some measures of student achievement (Johnson, 1990).

There are several considerations which are fundamental to the successful implementation of an institutional effectiveness assessment effort. They are:

(1) Strong interest, support, and collaboration from the President is critical in sustaining the assessment effort.

(2) An assessment process needs to be balanced with the positives and the negatives. It is important that the assessment efforts be designed to look honestly at institutional deficiencies, but also be a vehicle for highlighting institutional strengths and accomplishments.

(3) Research methodologies should focus on attempting to establish causal relationships as opposed to simply describing what happened.

(4) Expectations should be stated in such a way they are realistic and measurable.

(5) A meaningful implementation of an institutional assessment process requires the support of staff and faculty if the results are to make a difference in institutional decision making (Grosset & Hawk, 1988).

The use of assessment information to redirect efforts is an essential ingredient in effective learning and serves as a powerful lever for involvement. Institutions should be accountable not only for stating their expectations and standards but for assessing the degree to which those ends have been met. They should make a conscientious effort to acquire and use better information about student learning, the effects of courses, and the impact of programs (NIE, 1984).

The assessment of institutional effectiveness involves a comparison of results achieved to goals intended, a comparison of institutional performance to the institutional purpose. The clear implication is that colleges aspiring to be effective must first establish clear goals and then

devise ways to ascertain the extent to which those goals are being achieved (Johnson, 1990).

Outcomes assessment needs to be linked with planning and the results must be used in support of decision-making designed to improve institutional effectiveness. Outcomes assessment considered in the context of planning has made community colleges more systematic about what they do. It has helped community colleges to clarify these purposes and increase the sense of shared purpose among students, faculty, and administrators with respect to institutional goals (Banta, 1990). Different institutions will differ in the emphasis which they place upon these functions. Some may include additional functions in their mission statement that may need to be assessed as part of an investigation of institutional effectiveness (Ewell, 1989).

Outcomes assessment, according to Ed Morante of the New Jersey Higher Education Outcomes Evaluation Program, should be a method of determining the effectiveness of an institution and its programs. Included in this method are multiple variables : leadership, coordination, and commitment. Outcomes assessment includes examining both student activities such as learning, development, progress, and satisfaction during and after college and faculty activities.

Assessment can serve numerous good purposes:(1) It can serve to select the right people for a program (2) It can

help students learn, (3) It can monitor program effectiveness, (4) It can assess the value added to students through their education, (5) It can provide information through standardized tests, (6) It can certify that graduates learned what was expected, and (7) It can be used to monitor retention, satisfaction and job placement (Hockaday & Friga, 1991; Marchese, 1987).

North Carolina Community Colleges

In 1957 the North Carolina General Assembly passed the first Community College Act and provided funding to initiate a statewide system of Industrial Education Centers to provide technical training to adults and selected high school students. By 1961, North Carolina had five public junior colleges emphasizing arts and sciences and seven Industrial Education Centers focusing on technical and vocational education. In 1963 the two systems were merged under the Department of Community Colleges in the State Board of Education. After 1963 the system grew quickly from 24 institutions to 43 in 1965, 54 in 1969 and 58 by 1979. In 1981 an independent State Board of Community Colleges assumed authority for the system (NCDCC, 1989).

Today the system has 58 technical and community colleges offering programs and courses to the citizens of North Carolina. The size of the institutions range from approximately 160 average full time equivalent students

(FTE) at Palimco Community College to over 16,000 FTE at Central Piedmont Community College. Total enrollment for the system exceeds 200,000 students per year.

In 1989, the Commission on the Future of the North Carolina Community College System called upon North Carolina to invest in a comprehensive program to equip the community colleges to meet the demands of the citizens of the state. At the same time, increased accountability and stronger performance standards for the colleges was to accompany increased state funds (NCDCC, 1989).

In its 1989 session, the North Carolina General Assembly adopted a provision which mandated that:

> "The State Board of Community Colleges shall develop a 'Critical Success Factors' list to define statewide measures of accountability for all community colleges. Each college shall develop an institutional effectiveness plan, tailored to the specific mission of the college. This plan shall be consistent with the Southern Association of Colleges and Schools criteria and provide for collection of data as required by the 'Critical Success Factors' list" (State of North Carolina, 1989, p. 2501).

The colleges in turn were granted a greater degree of flexibility in deciding how to use their state funds (Smith et al., 1991)

The concept of critical success factors was developed at MIT's Sloan School of Business for application in a business setting. To enable an organization to focus its efforts "key things" that must go right for an enterprise to flourish and achieve its goals must be identified. Thus, critical success factors are both a planning and evaluation

tool (Smith et al., 1991).

In order to measure institutional effectiveness the community college's educational process needs to viewed as multidimensional, the institution's ability to deliver services and its ability to effect change in the student. In the first instance colleges are concerned with quantitative measures-enrollment statistics, minority students enrolled, persistence rates in remedial courses, persistence to degree, percentage of graduates employed in field of major within six months of graduation, number of contracted service agreements, etc. Quantitative measurement of institutional effectiveness is important because it provides a mirror of the college (William, 1988).

Community and technical colleges in North Carolina are being requested to provide some degree of accountability to governing bodies. They are being asked by their communities to better define their missions and position themselves to define their progress (Grossman & Duncan, 1988). The request of the North Carolina General Assembly for each college to develop institutional effectiveness plans was their way of requiring accountability of the North Carolina system.

The critical success factors were developed by the North Carolina State Board in July 1989 and amended in September 1990 to measure the system, not individual colleges. However, the state totals and averages did provide a benchmark for the colleges to measure their

efforts. North Carolina adopted the matrix format of the National Alliance of Community and Technical Colleges to graphically display the factors chosen (Appendix A) (Smith et al., 1991).

The critical success factor's list for the North Carolina Community Colleges were to be used for accountability, development of strategic goals, and improvement of programs and administration (Smith et al., 1991). Measurements of the attainment of critical success factors were an important part of the evaluation phase of the planning cycle, but other assessment methods also were to be pursued. These included program and institutional effectiveness reviews of many types which can be designed and conducted at the campus level as well as state wide studies which can address problems both qualitatively and quantitatively (Smith, 1989).

The initial list of critical success factors was drawn up by the Staff of the Department of Community Colleges and circulated to the President's Association for input. Several principles guided the development of the list. First, the factors had to come from goals adopted by the State Board in the system's plan and the North Carolina Commission on the Future's Report. Second, it was determined that the factors must be simple enough to be accessible to the legislators, board members, and the public. Third, every effort was made to define measures of

results. And finally, there must be multiple measures (Smith, 1989).

The System Planning Committee developed guidelines for institutional effectiveness plans to be submitted by each college. The guidelines were to provide for common elements which all plans must contain and be similar to the Southern Association of Colleges and Schools criteria, be flexible, be accompanied by examples of different ways to address the requirements and the plans were to have a common timeframe (Wilson, 1990).

The first institutional effectiveness plans were submitted to the State Board of Community Colleges in Fall, 1990. The plans were called educational blueprints. In reviewing the plans only three institutions, Central Piedmont, Fayetteville Technical, and Vance Granville Community College submitted plans that included Critical Success Factors.

In Fall 1991, the educational blueprints were to be submitted again with any substantive changes in the college's purpose, goals, planning and evaluation processes, a description of external or internal events which have affected the long-range plans of the college and the accomplishment of the college in addressing system level priority goals and objectives (Wilson, 1990).

Chapter Summary

The review of the literature was divided into five sections: Defining Effectiveness, Organizational Effectiveness, Accrediting Agencies, Assessment and Accountability, and The North Carolina System.

The early literature emphasized organizational effectiveness as a basis for institutional effectiveness. No single model or theory of organizational effectiveness emerged and no single definition of institutional effectiveness was shown to have preference over another. The earliest models focused on growth and reputation of the institution compared to other institutions. Today, institutional effectiveness models and definitions are used as an umbrella for accountability, student outcomes, student success, and planning.

In reviewing the literature on accreditation it was found that all six regional accrediting agencies have begun to require colleges and universities to demonstrate their effectiveness. This is a shift from an emphasis on resources to an emphasis on outcomes. Emphasis has also been placed on planning and a linkage between the planning process and measures of institutional effectiveness.

The literature produced many recent publications on assessment, outcomes assessment, student outcomes and student success. The authors of these publications pointed

out that different institutions will differ in the emphasis they place on functions of institutional effectiveness in regard to outcomes assessment.

Finally a review was made of the North Carolina Community College System's critical success factors. Thirty four critical success factors were developed to measure the effectiveness of the system. This measurement of effectiveness was mandated by the State Board of Community Colleges and the factors were to be used for accountability, development of strategic goals, and improvement of programs and administration.

This review of the literature provides a perspective from which to examine the critical success factor concept of institutional effectiveness in the community colleges of North Carolina. It also provided clues regarding the development of an effectiveness definition.

In conclusion, most of the studies cited in the literature focused on organizational effectiveness or assessment and accountability. Some studies reported diversity in emphasis on institutional effectiveness as related to assessment as demonstrated by the difference between Midland Technical College's approach and the North Carolina System's approach to measuring effectiveness. The literature regarding the critical success factor's concept was limited to information from Midland Technical College, South Carolina and the North Carolina System. Apparently no

other institutions are using critical success factors or they have not published information on their efforts. There were no published studies of institutional effectiveness of the North Carolina Community College system with respect to critical success factors.

Chapter 3

Research Methods

This study was designed to assess perceptions of importance and feasibility of use of the Critical Success Factors recommended by the North Carolina State Board of Community Colleges as they relate to individual community colleges in North Carolina. The importance of the factors to the colleges and the feasibility of using the factors by the colleges in their own institutional effectiveness plan was studied.

Research Methodology and Design

This study used a survey research methodology. A 34-item questionnaire pertaining to institutional effectiveness was used to gather data (Appendix B). Respondents were asked to complete two three-point scales for each item. One scale was to measure the respondent's judgment of the importance of the 34 critical success factors. The second scale was to measure the respondent's perception of the feasibility of the college using the critical success factor in the college's institutional effectiveness plan.

The questionnaire was administered in pilot form to five North Carolina Community College faculty members, two administrators, and one system level administrator to elicit

suggestions for improvement in clarity, coherence, and format. Many revisions were made to the survey instrument after conducting the pilot study.

The study was designed to answer six research questions.

1. Which critical success factors were deemed to be important for the colleges to use in institutional effectiveness plans, and which ones were deemed not to be important?

2. Was there general agreement between presidents and institutional effectiveness officers regarding the importance of critical success factors being used in institutional effectiveness plans?

3. Of the 34 critical success factors proposed by the North Carolina Community College System which critical success factors were perceived to be feasible for use by individual community colleges in their effectiveness plans?

4. Is there general agreement between presidents and institutional effectiveness officers regarding the feasibility of using the critical success factors in the college's institutional effectiveness plan?

5. Is there a relationship between the size of the institution and the perception of the importance placed on the critical success factors utilized in the institutional effectiveness plan?

6. Is there a relationship between the size of the institution and whether or not the critical success factors were deemed feasible for use in their institutional effectiveness plans?

The independent variables for this study were the respondent groups surveyed in the study: 58 presidents and 57 institutional effectiveness officers, and the size of the college: small, medium, or large. The dependent variables

were the mean scores of the importance of the critical success factors and the feasibility of using the critical success factors in institutional effectiveness plans.

Population and Subjects

The North Carolina Community College System serves the state through 58 technical and community colleges. The system consists of a State Board of Community Colleges, a Department of Community Colleges, a local board and local administrators for each of the 58 colleges. The size of the institutions varies from approximately 160 average annual FTE to 16,400 average annual FTE. Total enrollment for the system exceeds 200,000 students per year.

The population for this study were presidents and institutional effectiveness officers from each of the 58 community colleges in North Carolina. These groups surveyed were chosen because the presidents and the institutional effectiveness officers were directly responsible for writing the individual institutional effectiveness plans which were the basis for the educational blueprint for the system. Specifically the research groups consisted of the following members:

Group I- (n=58) Presidents

Group II- (n=57) Institutional Effectiveness Officers (Wilkes Community College does not have an IEO)

Colleges included in the study were grouped in three

categories based on their 1989-90 FTE credit enrollment: large (x>3000 FTE, n=10); medium (1500<x<3000 FTE, n=26); and small (x<1500 FTE, n= 22).

Data Collection Procedure

The procedure for data collection and for assembling and mailing the questionnaires was modeled after the method recommended by Dillman (1978) with one modification. One follow-up letter instead of a postcard was sent.

On May 30, 1991, the questionnaire was mailed to Presidents and Institutional Effectiveness Officers (IEOs) of the North Carolina Community Colleges at their community college. The respondents were asked to answer the questionnaire independently of each other. A cover letter (Appendix C) indicating the purpose of the study and the endorsement from the North Carolina Community College System was included (Appendix D).

On June 15, 1991, a followup letter was sent as a thank you for respondents and a reminder for nonrespondents (Appendix E).

Data Analysis

The purpose of this study was to determine which critical success factors were considered important to the colleges and to determine which factors were deemed feasible

to use in institutional effectiveness plans. The analysis of the data centered around the research questions. The response to each item was coded for computer analysis. The statistical analysis used to answer the research questions of this study was a number of descriptive statistics.

Conclusions can be extended only to the group included in the survey; and any similarity to other groups cannot be assumed. The data describes one group and that group only (Best & Kahn, 1988). Therefore, since this study was limited to all presidents and institutional effectiveness officers in the community colleges of North Carolina the conclusions of this study can be extended to that group only.

The "Critical Success Factors" were rank-ordered from highest to lowest mean score for both the importance responses and the feasibility responses of the presidents and IEOs. The rank of 1 indicated the factor with the highest mean, and the rank of 34 indicated the lowest mean rank.

Means and standard deviations were used to answer research questions one and three. A Spearman rank correlation coefficient was computed to determine the answer to questions two and four and Kendall's coefficient of concordance was used to answer questions five and six.

Spearman's correlation coefficient (Spearman rho) is a nonparametric techniques using data in the form of rankings.

The mean responses of presidents and IEOs according to importance and feasibility were ranked in order of preference. The Spearman rho allowed us to know the correlation between the two sets of rankings.

The mean responses for small, medium and large institutions were rank-ordered within each of the six groupings: quality, access, educational continuum, workforce, community service and program management/accountability. Kendall's coefficient of concordance (W) was used to measure the degree to which the three groups agreed.

Summary

The design of this study was descriptive research using survey data. The population consisted of two groups: 58 presidents and 57 institutional effectiveness officers of the 58 community colleges in North Carolina. The instrument was a 34-item questionnaire pertaining to institutional effectiveness with two three point scales per item. The questionnaire was mailed individually to each person and a followup letter was sent to those individuals who did not return their questionnaire. The data collected was analyzed according research questions using descriptive statistics.

Chapter 4

Presentation of Data

The purpose of this study was to assess the perceptions of importance and feasibility of the North Carolina Community College System's critical success factors as they relate to individual North Carolina community colleges. This was done by surveying the president and institutional effectiveness officer (IEO) of each school using a Critical Success Factor Questionnaire (Appendix B). The completed surveys were analyzed based on responses to importance and feasibility scales. The 34 critical success factors were divided into six categories: quality, access, education continuum, workforce, community service, and program management. (See Appendix A for Critical Success Factor Chart).

The populations for this analysis were 58 North Carolina Community College Presidents and 57 North Carolina Community College Institutional Effectiveness Officers. The president of Wilkes Community College also served as his college's IEO. The response rate for the presidents was 81% (N=47). Response rate for the IEOs was 95% (N=54). The breakdown of respondents by group is given in Table 1.

Table 1

Number Surveys Returned By Group

Respondents	N Sent	N Returned	% Response
Presidents	58	47*	81
Institutional Effectiveness Officers	57	54	95
Total	115	101	87

*43 surveys returned by presidents were used in the analysis

Total percentage of return from both groups was 87.8%. Of the 115 surveys sent to institutional officials, 101 were returned and 97 were usable. Four surveys returned from presidents were not used in the analysis. The presidents of those four schools stated that the survey returned from that school's IEO was to be the official position of the school.

Analysis of Data

Critical success factor responses were rated according to a Likert-type scale for purpose of analysis. The rating scale used for both importance and feasibility responses was 1=not important/not feasible, 2=important/feasible, and 3= very important/very feasible.

The mean response on the 3 point scale for each critical success factor was computed. Then factors were rated by the mean. Factors with means of 1 to 1.49 were rated not important/not feasible. Factors with means of 1.5 to 2.49 were rated important/feasible and factors with means of 2.5 to 3.0 were rated as very important/very feasible. The means and standard deviations are found in Table 2.

Research Questions One

Which critical success factors were deemed to be important for colleges to use in institutional effectiveness plans, and which ones were deemed not to be important?

This question was answered by computing the mean responses of all respondents to each critical success

Table 2

Means and Standard Deviations of the Importance of Critical Success Factors

Critical Success Factors	Presidents M** N = 43	Presidents S.D. N = 43	IEO* M** N = 54	IEO* S.D. N = 54
Quality				
Salaries	2.44	.63	2.49	.58
Staff Development	2.84	.37	2.75	.48
Student Persistence	2.86	.35	2.83	.39
Returning Students	2.57	.55	2.50	.58
Licensure Exam Success	2.86	.35	2.85	.36
Up-To-Date Equipment	2.77	.43	2.81	.39
Library Standards	2.49	.55	2.38	.57
Level of Literacy	2.74	.44	2.70	.46
College Transfers-Perfor.	2.70	.46	2.77	.47
Access				
Non-traditional Enrollments	2.37	.54	2.41	.57
Literacy Programs (%)	2.63	.49	2.56	.60
GED & AHS Diplomas Awarded	2.45	.55	2.49	.69
Dropouts Served by Literacy	2.47	.50	2.34	.71
Financial Aid	2.30	.64	2.02	.70
Literacy Grads. to Curr.	2.53	.50	2.50	.61
Population Enrolled	2.44	.55	2.32	.67
Education Continuum				
New HS Grads Enrolled	2.53	.55	2.42	.63
Cooperative Agreements-HS	2.21	.56	2.06	.57
Grads Enrolled in UNC Syst.	2.07	.70	1.94	.74
College Contract. Agreement	1.83	.68	1.84	.72
Workforce				
Industry Training	2.42	.63	2.41	.61
Workplace Literacy Sites	2.52	.63	2.60	.53
Employer Satisfaction	2.86	.35	2.92	.33
Employment Status of Grads	2.60	.49	2.83	.38
Community Service				
Community Service Classes	2.05	.59	2.02	.51
Special Populations-Enroll.	2.00	.58	1.94	.60
Outside Groups-Facility Use	2.12	.64	1.87	.65
Local Government Support	2.81	.39	2.74	.49
Non-government Support	2.44	.55	2.45	.67
Visiting Artist Program	1.95	.58	2.00	.69
Civic & Cultural Events	2.21	.56	2.19	.59
Program Management				
Program Audit Summary	2.35	.65	2.49	.50
Program Reviews	2.26	.54	2.47	.64
Programs Accredited(%)	2.50	.63	2.43	.67

*Institutional Effectiveness Officers **Collective Means

factor. The highest rated critical success factors for both presidents and institutional effectiveness officers were success on licensure exams and employer satisfaction with graduates. The mean of responses for presidents on these factors were 2.86, while the IEO's mean response on success on licensure exams was 2.85 and the mean on employer satisfaction with graduates was 2.92.

Fourteen of the 34 critical success factors were rated very important by presidents (Table 2). None of the critical success factors were rated not important. The factors rated lowest were percent of students enrolled in college contractual agreements for college transfer (M = 1.84) and the impact of the visiting artist program (M = 1.95).

Institutional effectiveness officers rated 13 of the critical success factors as very important (Table 2). They, like the presidents, did not rate any factor as not important.

Research Question Two

Is there agreement between presidents and institutional effectiveness officers regarding the importance of critical success factors being used in institutional effectiveness plans?

The means were ranked with the highest mean for each respondent group ranked 1, and the lowest mean response ranked 34. The ranking of importance is found in Table 3. A

Table 3

Rank of Critical Success Factors:Importance

Critical Success Factors	Rank	
	Presidents	IEO*
Licensure Exam Success	2	2
Employer Satisfaction	2	1
Student Persistence	2	3
Staff Development	4	7
Local Gov't Support	5	8
Up-to-Date-Equipment	6	5
Level of Literacy	7	9
College Transfer-Performance	8	6
Literacy Programs (%)	9	11
Employment Status of Graduates	10	4
Returning Students	11	12.5
Literacy Grads to Curriculum	12.5	12.5
New High School Grads Enrolled	12.5	20
Workplace Literacy Sites	14	10
Programs Accredited	15	19
GED & AHS Diplomas Awarded	16.5	15
Library Standards	16.5	23
Dropouts Served by Literacy	18	24
Salaries Compared to Southeast	20	15
% Population Enrolled	20	25
Non Government Support	20	18
New Industry Training	22	21.5
Non Traditional Enrollments	23	21.5
Program Audit Summary	24	15
Financial Aid	25	28.5
Program Reviews	26	17
Cooperative Agreements-H. S.	27.5	27
Civic & Cultural Events	27.5	26
Outside Group Facility Use	29	33
Grads Enrolled in UNC System	30.5	31.5
Community Service Classes	30.5	28.5
Special Population Enrolled	32	31.5
Visiting Artist	33	30
College Contractual Agreements	34	34

$\bar{r}s$ = .93

*Institutional Effectiveness Officers

Spearman rank correlation coefficient was computed between the president's ranking of perceived importance of the critical success factors perceived and the IEO's ranking of the perceived importance of the critical success factors. Agreement between presidents and IEOs was found to be substantial ($\bar{r}s$= .93, $p<.05$). The factors that showed the greatest rank order difference between presidents and institutional effectiveness officers were program audit summary and program reviews. The ranking of these factors by presidents was 9 places below the rankings of the IEOs.

Research Question Three

Of the 34 critical success factors proposed by the North Carolina Community College System, which critical success factors were perceived to be feasible for use by individual community colleges in their effectiveness plans?

Analysis of the responses to the feasibility of using the critical success factor items is found in Table 4. Mean responses were used. The factor which had the highest mean score for feasibility of use was success on licensure exams. Both presidents (M = 2.70) and IEOs (M = 2.77) rated this factor as the most feasible factor to use to measure effectiveness of the institution.

Five additional factors were rated by presidents as very feasible. They were staff development, percent of service population enrolled, recent high school graduates enrolled, employer satisfaction, and local government

Table 4

Means and Standard Deviations of the Feasibility of Using Critical Success Factors

Critical Success Factors	Presidents M** N=43	S.D.	IEO* M** N=54	S.D.
Quality				
Salaries	2.19	.59	2.00	.78
Staff Development	2.53	.55	2.51	.50
Student Persistence	2.21	.56	2.30	.57
Returning Students	2.36	.53	2.37	.63
Licensure Exam Success	2.70	.51	2.77	.47
Up-To-Date Equipment	2.16	.65	2.13	.56
Library Standards	2.02	.52	2.00	.73
Level of Literacy	2.42	.63	2.42	.57
College Transfers-Perform.	2.40	.62	2.28	.74
Access				
Non-traditional Enrollments	2.07	.51	2.19	.59
Literacy Programs (%)	2.40	.49	2.40	.53
GED & AHS Diplomas Awarded	2.23	.53	2.17	.58
Dropouts Served by Literacy	2.16	.43	2.03	.59
Financial Aid	2.16	.53	2.04	.71
Literacy Grads. to Curr.	2.40	.58	2.33	.65
Population Enrolled	2.51	.55	2.36	.62
Education Continuum				
New HS Grads Enrolled	2.51	.55	2.32	.67
Cooperative Agreement-HS	2.26	.62	2.21	.57
Grads Enrolled in UNC Syst.	2.17	.66	2.08	.65
College Contract. Agreement	2.03	.70	1.96	.75
Workforce				
Industry Training	2.21	.64	2.27	.63
Workplace Literacy Sites	2.43	.59	2.44	.61
Employer Satisfaction	2.48	.51	2.48	.61
Employment Status of Grads	2.21	.69	2.35	.68
Community Service				
Community Service Classes	2.15	.58	2.10	.57
Special Populations-Enroll.	2.05	.58	1.94	.57
Outside Groups-Facility Use	2.17	.59	2.15	.57
Local Government Support	2.56	.55	2.47	.57
Non-government Support	2.23	.61	2.28	.63
Visiting Artist Program	1.79	.56	1.72	.63
Civic & Cultural Events	2.05	.58	1.84	.58
Program Management				
Program Audit Summary	2.29	.55	2.45	.54
Program Review	2.36	.58	2.47	.58
Program Accredited(%)	2.43	.63	2.38	.66

*Institutional Effectiveness Officers ** Collective Means

support. On the other hand, institutional effectiveness officers rated only one other factor, staff development, in the very feasible range.

The factor with the lowest mean score for both groups was the visiting artist program. The mean rating by presidents was 1.79, and the mean rating by IEOs was 1.72.

Research Question Four

Was there agreement between presidents and institutional effectiveness officers regarding the feasibility of using the critical success factors in the college's institutional effectiveness plan?

The means for feasibility were ranked with the highest mean for each respondent group ranked 1 and the lowest mean response ranked as 34. The rankings of feasibility are found in Table 5. A Spearman rank correlation coefficient was computed between the means of the president's ranking of the feasibility of using the critical success factors and the IEO's mean ranking of the critical success factors feasibility ($\bar{r}s = .86$, $p < .05$). There was a difference in the ranking of the feasibility means in the program audit summary factor in that there was a nine point difference in the mean ranking of presidents versus IEOs.

Table 5

Rank of Critical Success Factors: Feasibility

Critical Success Factors	Rank	
	President	IEO
Licensure Exam Success	1	1
Local Gov't Support	2	4.5
Staff Development	3	2
Population Enrolled	4.5	12
New High School Grads.	4.5	14.5
Employer Satisfaction	6	3
Workplace Literacy Sites	7.5	7
Program Accredited	7.5	10
Level of Literacy	9	8
Literacy Programs (%)	11	9
College Transfer-Performance	11	17.5
Literacy Grads to Curriculum	11	14.5
Returning Students	13.5	11
Program Reviews	13.5	4.5
Program Audit Summary	15	6
Cooperative Agreements-H.S.	16	20
GED & AHS Diplomas Awarded	17.5	22
Non Government Support	17.5	17.5
New Industry Training	20	19
Employment Status of Graduates	20	13
Student Persistence	20	16
Salaries Compared to Southeast	22	29.5
Grads Enrolled in UNC System	23.5	26
Outside Group Facility Use	23.5	23
Up-to-Date Equipment	26	24
Dropouts Served by Literacy	26	28
Financial Aid	26	27
Community Service Classes	28	25
Non Traditional Enrollments	29	21
Special Population Enrolled	30.5	32
Civic & Cultural Events	30.5	33
College Contractual Agreements	32	31
Library Standards	33	29.5
Visiting Artist	34	34

$\bar{r}s = .86$

Research Question Five

Is there a relationship between the size of the institution and the importance placed on the critical success factors utilized in the institutional effectiveness plan?

In comparing the means of small, medium, and large institutions in their responses to the perceived importance of the critical success factors, all agreed that the rate of success on licensure exams was one of the most important factors to be used in the institutional effectiveness plan. The mean responses from small institutions for this factor was 2.92, from medium institutions 2.82 and from large institutions 2.86. The means and standard deviations are found in Table 6.

All sizes of institutions agreed that staff development, was a very important factor. The mean for small institutions was 2.84, the mean for medium institutions was 2.82, and the mean for large institutions was 2.64.

When comparing the means of the three sizes of institutions, the number one ranked factor was different for all groups. Rate of success on licensure exams received the highest mean (2.92) for small institutions. Persistence of students, received the highest mean (2.89) for medium institutions, while the employment status of graduates and

Table 6

Means and Standard Deviations of the Importance of the Critical Success Factors: Size of Institution

Critical Success Factors	Small M* N=33	S.D.	Medium M* N=44	S.D.	Large M* N=14	S.D.
Quality						
Salaries	2.37	.63	2.55	.59	2.50	.60
Staff Development	2.84	.37	2.82	.45	2.64	.50
Student Persistence	2.76	.43	2.89	.32	2.93	.27
Returning Students	2.58	.60	2.51	.55	2.54	.52
Licensure Exam Success	2.92	.27	2.82	.39	2.86	.36
Up-To-Date Equipment	2.76	.43	2.82	.39	2.79	.43
Library Standards	2.53	.51	2.35	.57	2.43	.65
Level of Literacy	2.82	.39	2.61	.49	2.79	.43
College Trans. Perf.	2.68	.53	2.80	.41	2.71	.47
Access						
Non-trad. Enrollments	2.50	.56	2.30	.55	2.43	.51
Literacy Programs (%)	2.71	.46	2.48	.63	2.64	.50
GED & AHS Dipl. Awarded	2.61	.55	2.36	.69	2.57	.51
Dropouts Served by Lit.	2.50	.51	2.20	.70	2.71	.47
Financial Aid	2.32	.70	2.05	.69	2.14	.54
Literacy Grads./Curr.	2.61	.55	2.49	.55	2.36	.63
Population Enrolled	2.47	.60	2.27	.65	2.29	.61
Education Continuum						
New HS Grads Enrolled	2.40	.60	2.50	.63	2.64	.50
Coop. Agreement-H.S.	2.21	.62	2.05	.53	2.14	.54
Grads in UNC Syst.	1.97	.69	1.93	.66	2.43	.76
Coll. Contract. Agree.	2.06	.80	1.65	.58	1.92	.54
Workforce						
Industry Training	2.40	.64	2.36	.62	2.71	.47
Workplace Lit. Sites	2.53	.56	2.56	.59	2.77	.44
Employer Satisfaction	2.87	.34	2.88	.39	3.00	0
Employ. Stat. of Grads	2.74	.45	2.65	.48	2.93	.27
Community Service						
Community Ser. Classes	2.11	.58	1.91	.53	2.23	.44
Special Pop.-Enroll.	2.13	.53	1.82	.66	2.07	.27
Outside Groups use	2.02	.73	1.93	.66	1.92	.49
Local Gov't Support	2.76	.43	2.77	.48	2.79	.43
Non-gov't Support	2.48	.60	2.5	.60	2.36	.63
Visiting Artist Prog.	2.00	.66	1.93	.70	1.93	.48
Civic/Cultural Events	2.24	.59	2.27	.59	1.93	.48
Program Management						
Program Audit Summary	2.53	.56	2.32	.60	2.50	.52
Program Review	2.56	.50	2.25	.69	2.29	.47
Program Accredited(%)	2.58	.60	2.35	.72	2.57	.51

*Collective Means

persistence of students had the highest means (2.93,2.93) for large institutions.

In order to measure the degree to which the three sizes of institutions agreed on the importance of the critical success factors Kendall's Coefficient of Concordance (W) was computed. Each coefficient of concordance was then converted to $\bar{r}s$, which is interpreted in the same manner as any correlation coefficient, having a range of -1 to +1. The means of the factors were ranked from lowest to highest within the six categories of quality, access, education continuum, workforce, community service, and program management/accountability.

For the category of quality Kendall's W was .80 ($\bar{r}s$=.70) indicating moderate agreement among all institutions as to the importance of the factors. Access had a Kendall's W of .70 indicating moderate agreement among the institutions as to the importance of access factors.

Education continuum, community service, and program management/accountability all had moderate agreements. The category of workforce received a Kendall's W of 1.00 and an interpretation coefficient of 1.00 which indicated perfect agreement. The results are found in Table 7.

Table 7

Kendall's (W) Coefficient of Concordance for Size of Institution

Category	Important		Feasible	
	W	$\bar{r}s$*	W	$\bar{r}s$*
I. Quality	.80	.70	.80	.70
II. Access	.70	.55	.68	.52
III. Education Continuum	.78	.67	.78	.67
IV. Workforce	1.00	1.00	.90	.85
V. Community Service	.77	.66	.80	.70
VI. Program Management/ Accountability	.80	.70	.36	.04

*$\bar{r}s$ = interpretation of the coefficient

Research Question Six

Is there a relationship between the size of the institution and whether or not the critical success factors would be feasible to use in their institutional effectiveness plans?

In comparing the means of small, medium and large institutions in their responses to the feasibility of using the critical success factors, all three agreed that the rate of success on licensure exams was the most feasible factor. The response mean for small institutions was 2.87, for medium institutions 2.64, and for large institutions, 2.79. Means and standard deviations are found in Table 8.

Kendall's Coefficient of Concordance (W) was also used to measure the degree to which the three sizes of institutions agreed on the feasibility of the critical success factors within each of the six categories. As with the importance mean responses the feasibility mean responses were ranked within the category. The Kendall W formula and the interpretation of the coefficient ($\bar{r}s$) were computed. The results are found on Table 7.

Moderate agreement was found in the categories of quality, access, education continuum and community service. High agreement was found in the workforce category with a rs of .85. For the program management items Kendall's W is .36 ($\bar{r}s$ = .04). There are only three items in this group and their means range from 2.28 to 2.56, thus the

Table 8

Means and Standard Deviations of the Feasibility of the Critical Success Factors: Size of Institution

Critical Success Factors	Small M* N=33	S.D.	Medium M* N=44	S.D.	Large M* N=14	S.D.
Quality						
Salaries	2.00	.71	2.14	.73	2.29	.61
Staff Development	2.50	.56	2.57	.50	2.50	.52
Student Persistence	2.34	.58	2.14	.55	2.50	.52
Returning Students	2.47	.60	2.23	.57	2.54	.52
Licensure Exam Success	2.87	.34	2.64	.57	2.79	.43
Up-To-Date Equipment	2.29	.65	2.05	.58	2.14	.54
Library Standards	2.22	.63	1.89	.66	2.00	.56
Level of Literacy	2.47	.60	2.32	.60	2.57	.51
College Transf./Perfor.	2.34	.71	2.32	.68	2.43	.76
Access						
Non-trad. Enrollments	2.32	.53	2.05	.57	2.07	.48
Literacy Programs (%)	2.42	.50	2.30	.51	2.64	.50
GED & AHS Dipl. Awarded	2.26	.60	2.07	.45	2.43	.65
Dropouts Served by Lit.	2.16	.50	1.91	.47	2.50	.52
Financial Aid	2.21	.70	2.05	.62	2.07	.48
Literacy Grads./Curr.	2.40	.64	2.33	.61	2.43	.65
Population Enrolled	2.47	.65	2.34	.57	2.50	.52
Education Continuum						
New HS Grads Enrolled	2.45	.60	2.30	.67	2.71	.47
Coop. Agreement-H.S.	2.29	.61	2.18	.58	2.29	.61
Grads in UNC Syst.	2.00	.62	2.16	.65	2.36	.50
Coll. Contract. Agree.	2.08	.80	1.95	.70	2.00	.60
Workforce						
Industry Training	2.18	.69	2.24	.62	2.5	.52
Workplace Lit. Sites	2.45	.56	2.37	.66	2.70	.48
Employer Satisfaction	2.46	.56	2.40	.58	2.86	.36
Employ. Stat. of Grads	2.24	.68	2.21	.64	2.57	.65
Community Service						
Community Ser. Classes	1.17	.61	2.61	.59	2.23	.44
Special Pop.-Enroll.	2.11	.65	1.93	.59	2.00	0
Outside Groups use	2.24	.59	2.21	.60	1.85	.38
Local Gov't Support	2.53	.56	2.46	.59	2.64	.50
Non-gov't Support	2.32	.67	2.25	.58	2.29	.61
Visiting Artist Prog.	1.76	.68	1.73	.62	1.86	.36
Civic/Cultural Events	2.05	.70	2.05	.57	1.93	.27
Program Management						
Program Audit Summary	2.50	.51	2.28	.55	2.43	.65
Program Review	2.56	.56	2.33	.61	2.43	.51
Program Accredited(%)	2.50	.60	2.31	.72	2.50	.52

* Collective Means

reason for the low value of Kendall's W.

Summary

The purpose of this study was to assess the North Carolina Community College System's Critical Success Factors as they relate to individual North Carolina Community Colleges. Administrators from two respondent groups included 47 presidents and 54 institutional effectiveness officers (IEO). There were 43 usable responses from presidents and 54 usable responses from IEOs.

Presidents and institutional effectiveness officers agreed on the importance and the feasibility of use of all of the 34 critical success factors by ranking them important or very important. They also agreed on the ranking of the top critical success factors in that the top three factors for both groups were success on licensure exams, employer satisfaction, and student persistence.

Small, medium and large institutions had moderate agreement for the factors in the categories of quality, access, education continuum, community service, and program management/accountability in importance. A correlation of 1.0 was found in the workforce category indicating total agreement of the institutions regardless of size for all factors in that category.

In comparing the size of the institution to the feasibility of using the factors in the institutional

effectiveness plans, moderate agreement was found in the categories of quality, access, education continuum, and community service. Factors in workforce had strong agreement and program management/accountability showed little or no agreement.

Overall, even though there was moderate or high agreement between the presidents and IEOs, institutional effectiveness officers had a tendency to rank the factors lower than presidents. There was also moderate to high agreement among small, medium, and large institutions on all factors for both importance and feasibility. However, more respondents from medium size institutions than from large or small institutions had a tendency to give the factors a not important or not feasible ranking.

Chapter 5

Summary, Conclusions, Recommendations

The purpose of this study was to assess the North Carolina Community College system's critical success factors as they relate to individual community colleges. Specifically the study sought to (1) determine which critical success factors were important, (2) determine if there is general agreement between presidents and institutional effectiveness officers regarding the importance of the critical success factors, (3) determine which critical success factors are perceived to be feasible, (4) determine if there is general agreement between presidents and institutional effectiveness officers regarding the feasibility of use of the critical success factors in the development of the college's institutional effectiveness plans, (5) determine if there is a relationship between institutional size and the importance of the critical success factors, and (6) determine if there is a relationship between institutional size and the feasibility of using the critical success factors in the institutional effectiveness plans.

In order to accomplish the objectives of the study six research questions were asked:

1. Which critical success factors were deemed to be important for the colleges to use in institutional effectiveness plans, and which ones were deemed not to be important?

2. Was there general agreement between presidents and institutional effectiveness officers regarding the importance of critical success factors being used in institutional effectiveness plans?

3. Of the 34 critical success factors proposed by the North Carolina Community College System which critical success factors were perceived to be feasible for use by individual community colleges in their effectiveness plans?

4. Was there general agreement between presidents and institutional effectiveness officers regarding the feasibility of using the critical success factors in the college's institutional effectiveness plan?

5. Was there a relationship between the size of the institution and the perception the importance placed on the critical success factors utilized in the institutional effectiveness plan?

6. Was there a relationship between the size of the institution and whether or not the critical success factors were deemed feasible for use in their institutional effectiveness plans?

Survey methodology was used to collect data and to answer the research questions. Presidents and institutional effectiveness officers from the North Carolina community colleges were chosen to be the participants for the study. A 34-item questionnaire based on the North Carolina Community College System's critical success factors was mailed to 58 presidents and 57 institutional effectiveness officers in May 1991. Forty-seven presidents and 54 IEOs returned the questionnaire. Ninety-seven of the 101 (96%) questionnaires returned were usable.

The questionnaire, developed by the researcher, was based on the critical success factors list that was

recommended to measure the effectiveness of the North Carolina Community College System. Participants were asked to indicate whether the factors were important to their college and whether the factors were feasible to use to measure institutional effectiveness at the college.

Means and standard deviations were used to determine the importance and feasibility of each factor. Spearman's rank correlation coefficients were used to determine agreement between presidents and institutional effectiveness officers on both importance and feasibility. Kendall's coefficient of concordance (W) was used to measure the degree to which the three sizes of institutions, small, medium and large, agreed on the importance of the factors as well as the feasibility of using the factors in the institutional effectiveness plans.

Summary of Findings

Presidents and institutional effectiveness officers agreed that the 34 critical success factors were important or very important. None of the critical success factors were rated not important. Both groups rated success on licensure exams and employer satisfaction with graduates as the most important factors to be used in the college's institutional effectiveness plans.

The institutional effectiveness officers had a tendency to rate the importance of the factors slightly lower than the presidents even though there was a strong agreement in

all categories. The lowest ranked factor for both presidents and IEOs was college contractual agreement for college transfer.

Presidents and IEOs agreed on the feasibility of the 34 critical success factors by rating each of them in the feasible or very feasible category. Again the IEOs had a tendency to rate the factors slightly lower overall than did the presidents. Success on licensure exams was the #1 ranked factor by presidents as well as IEOs. They also agreed on the lowest ranked factor which was the visiting artist program.

There was a strong relationship between the presidents and the institutional effectiveness officers in their ranking of factors in importance and feasibility. Spearman's rank correlation coefficient showed a slightly higher relationship between presidents and IEOs in importance even though both importance and feasibility were highly related.

Small, medium and large institutions had moderate agreement on importance for the factors in the categories of quality, access, education continuum, community service, and program management/accountability. Workforce factors received a perfect correlation.

All three groups had moderate agreement for feasibility in the categories of quality, access, education continuum,

and community service. High agreement was found in the workforce category while little or no agreement was found in the program management/accountability category.

Conclusions

Importance of Critical Success Factors

Both respondent groups were in harmony on which critical success factors were important to their college. Therefore, it is concluded that agreement exists between presidents and institutional effectiveness officers regarding the importance of the critical success factors to the college. The high rating of licensure examination results, employer satisfaction with graduates and student persistence indicated that there was agreement that these outcome measures were very important to the measurement of effectiveness in the North Carolina community colleges.

Feasibility of Critical Success Factors

Both respondent groups were in agreement on whether or not the critical success factors were feasible for the college to use to measure institutional effectiveness. Therefore,it is concluded that agreement exists between presidents and institutional effectiveness officers regarding the feasibility of using the critical success factors in institutional effectiveness plans. Institutional effectiveness officers were more likely than presidents to give a lower rating to the feasibility of using the factor.

Since IEOs are responsible for gathering the data to measure these factors they may view the feasibility of gathering data in a little different light than the presidents would view the task.

Size of Institution

Respondents from small, medium, and large sized institutions had moderate agreement for five out of the six categories of factors. There was a 1.0 correlation for the workforce category of factors. **It is concluded that size of an institution has no bearing on the importance placed on the critical success factors.** This is surprising because one would expect small and large institutions to vary in the importance placed on the critical success factors.

When the size of the institution was compared to the feasibility of using the factors moderate agreement was found for four of the categories of factors, high agreement for one and low or no agreement for one. Therefore, **it is concluded that size of the institution has no relationship to the feasibility of use for factors in the quality, access, education continuum, workforce, and community service categories, but did have an bearing on the program management/accountability factors.** This is also surprising since small institutions do not have the personnel resources to collect data. Large institutions generally have not only the adequate personnel, but also the financial resources to gather the data to measure the effectiveness of the

institution for each factor.

Related Literature

The term institutional effectiveness has frequently been used as an umbrella for issues such as quality control, accountability, student outcomes, student success, and various measures of organizational efficiency (Kreider, 1990). The critical success factors list in North Carolina's umbrella for measuring effectiveness included student outcomes, student success and accountability. Findings of this study reveal a consensus between presidents and institutional effectiveness officers regarding which of the 34 critical success factors were important for measurement of the college's effectiveness.

The Alliance Model of Institutional Effectiveness (1988) identified six issues that were important for a college to deal with if that college was to consider itself effective. The six areas that the North Carolina Community College System identified were based on the Alliance Model. This study pointed out that community college administrators in North Carolina also felt that these factors were appropriate for measurement of effectiveness.

Cameron (1978) found that outputs and goal accomplishments were probably the most widely used effectiveness criteria. This study found that critical success factors that measured outputs and goals were important to the North Carolina community colleges.

Hughes (1990) said that indicators of critical success factors and their supporting measurement criteria were the observed, quantified, and qualified results of performance. They provided a structure and a mechanism for organizing, reviewing and evaluating Midland Technical College's effectiveness. These findings were uniform with those of this study (Hughes, 1990).

Implications

The findings and conclusions of this study contain some directions and implications for the North Carolina Community College System. First, the high rate of agreement among all respondent groups concerning the importance of the critical success factors indicated the system recommendations were consistent with the views of the administrators of the individual colleges.

All critical success factors were considered to be important or very important and feasible or very feasible. The closeness of the ratings between groups indicated that the two groups believed the critical success factors to be important to the college's effectiveness plans and feasible for the college to accomplish. The high rating of success on licensure exams, employer satisfaction, and student persistence indicated both groups agree that student achievement was a key measure of quality.

Institutional effectiveness officers tended to slightly disagree with presidents on the rankings of importance

placed on the factors and the ranking of the feasibility of accomplishing the measurement of the factors. This may be explained by looking at the specific roles of the two groups. IEOs were not as concerned with the actual implementing of the factors as are the presidents and may not see some factors as important or feasible. The IEOs who ranked the factors high may have been influenced by the beliefs of the presidents. Responses given may have reflected the community college president's views and not the true views of the IEOs.

There were three possible explanations as to why the presidents and institutional effectiveness officers' responses to the items on the questionnaire were so similar. The first explanation is that the both the president and the IEO were very involved in the writing of the annual effectiveness plan of the college that was submitted to the North Carolina Community College system office. Since the effectiveness plans were to include how the college addressed the critical success factor recommendations it was feasible that a consensus opinion was expressed. IEO responses echoed this consensus decision.

The second explanation was related to the large percentage of IEOs that were new in the North Carolina Community College system. According to demographic information gathered included in the survey, 30 percent of the IEO respondents had been in the North Carolina

Community College System less than three years. They may not have formed an independent view of the critical success factors and therefore answered the questionnaire using the views of their president instead of their own.

The third possible explanation was that even though the critical success factors list was a recommended list developed for the evaluation of the system and not individual institutions, community colleges of North Carolina often follow the direction of the state in developing local initiatives. In reviewing the individual college plans submitted in 1990 there was little deviation from the list of 34 critical success factors.

Recommendations for Future Study

Based on the findings and implications of this study, the following recommendations are made:

1. This study could be conducted using a wider range of respondents to include faculty to examine further the importance of the critical success factors to rest of the college.

2. This study could be used by the State System office to determine if critical success factors with the lowest percentages are worthy of retainment in the list of recommended factors.

3. This study could provide the North Carolina Community College system with a basis for further investigation of the critical success factors to improve the use of the factors in the college plans.

4. Similar research could be conducted to examine the 1991 and 1992 institutional effectiveness plans of each college to see which critical success factors are actually being used by the college.

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APPENDIX A

CRITICAL SUCCESS FACTORS LIST

(Proposed Measures for 1990-91)

FACTOR I. Quality	A. Institutional salaries as a percent of the Southeastern regional average	B. Participation in staff development programs: Tier A	C. Persistence of students towards completion of goals- (literacy students only)	D. Number of students returning from previous quarters	E. Rate of success on licensure exams (where such are required)	*F. Currentness of equipment*	G. Percent of libraries meeting ACRL* standards	H. Number of students moving from one level of literacy to another	I. Performance of transfers after two semesters
FACTOR II. Access	A. Enrollment of high school dropouts; handicapped; disadvantaged; single parents; nontraditional high school diploma earners; inmates	B. Number served by type through literacy programs and percent of target population served	C. Number of GED's and AHSD's awarded compared to the number of dropouts statewide	D. Number & percent of dropouts annually who are served by literacy programs	E. Percent of students receiving financial aid and amount of aid compared with cost of attendance	F. Number of students moving from literacy to some other college program	G. Percent of population in service area enrolled		
FACTOR III. Education Continuum	A. Number & percent of recent high school graduates enrolled in community college programs	B. Number of & enrollment in cooperative agreements with high schools	C. Number & percent of students in the UNC system who attended a community college	D. Number of & enrollment in college contractual agreements for college transfer					
FACTOR IV. Workforce Development	A. Number of employers and trainees served by: New & Expanding Industry, FIT, Small Business Centers, Apprenticeship programs	B. Number of workplace literacy sites and number of students being served	*C. Employer satisfaction with graduates (from program reviews)*	*D. Employment status of graduates (from program reviews)*					
FACTOR V. Community Services	A. Number of courses offered & students enrolled through community services (avocational, practical skills, academic, and recreational)	B. Numbers of persons from special populations in avocational, practical skills, academic, and recreational courses.	C. Number of outside groups using college facilities & total hours of facilities usage by outside groups	D. Local government support of colleges	E. Non-government support of colleges	*F. Impact of visiting artist program*	*G. Support of civic & cultural events*		
FACTOR VI. Program Management/ Accountability	A. Annual educational program audit summary--number audited & percent of system instructional budget cited for exceptions	B. Number and percent of programs reviewed	C. Number and percent of eligible programs accredited or reaffirmed						

*ACRL: American College and Research Library standards for Community, Junior, and Technical College Learning Resources Centers

Revised: 7/19/90

APPENDIX B

CRITICAL SUCCESS FACTORS QUESTIONNAIRE

CRITICAL SUCCESS FACTOR

QUESTIONNAIRE

DISSERTATION RESEARCH

by

MARY AVERY

VIRGINIA TECH

MAY, 1991

Critical Success Factor Questionnaire

Instructions: The following are critical success factors that have been recommended to measure the effectiveness of the North Carolina Community College System. We would like your views on how important these factors are to your college and how feasible it would be to use these factors to measure institutional effectiveness at your college.

Please circle your response on both the important and feasible scales

---

Rating Scale: VI- Very Important VF- Very Feasible
I- Important F- Feasible
NI- Not Important NF- Not Feasible

Factor I: Quality

1.	Institutional salaries compared to the Southeastern regional average.	important	VI	I	NI
		feasible	VF	F	NF
2.	Participation in staff development.	important	VI	I	NI
		feasible	VF	F	NF
3.	Persistence of students toward completion of goals.	important	VI	I	NI
		feasible	VF	F	NF
4.	The number of students returning from previous quarters.	important	VI	I	NI
		feasible	VF	F	NF
5.	The rate of success on licensure exams.	important	VI	I	NI
		feasible	VF	F	NF
6.	Up-to-date equipment at the college.	important	VI	I	NI
		feasible	VF	F	NF
7.	The library meeting the American College and Research Library standards for Community, Junior, and Technical College Learning Resources Centers.	important	VI	I	NI
		feasible	VF	F	NF
8.	The number of students moving from one level of literacy to another.	important	VI	I	NI
		feasible	VF	F	NF
9.	The performance of the community college student transfers to four-year colleges and universities.	important	VI	I	NI
		feasible	VF	F	NF

Factor II: Access

10.	The enrollments of high school dropouts, handicapped, disadvantaged, single parents nontraditional high school diploma earners, and inmates.	important	VI	I	NI
		feasible	VF	F	NF
11.	The percent served through literacy programs.	important	VI	I	NI
		feasible	VF	F	NF
12.	The percent of General Education Development (GED) and Adult High School Diplomas (AHSD) awarded compared to the number of dropouts in the college's service area.	important	VI	I	NI
		feasible	VF	F	NF
13.	The percent of dropouts annually who are served by literacy programs.	important	VI	I	NI
		feasible	VF	F	NF
14.	The percent of students receiving financial aid compared to the cost of attendance.	important	VI	I	NI
		feasible	VF	F	NF
15.	The percent of students moving from literacy to some other college program.	important	VI	I	NI
		feasible	VF	F	NF

16. The percent of the population in the college's service area enrolled in the college.	important	VI	I	NI
	feasible	VF	F	NF

Factor III: Education Continuum

17. The percent of recent high school graduates enrolled in community college programs.	important	VI	I	NI
	feasible	VF	F	NF
18. The percent of students enrolled in cooperative agreements with high schools.	important	VI	I	NI
	feasible	VF	F	NF
19. The percent of students in the University of North Carolina System who attended a community college.	important	VI	I	NI
	feasible	VF	F	NF
20. The percent of students enrolled in college contractual agreements for college transfer.	important	VI	I	NI
	feasible	VF	F	NF

Factor IV: Workforce

21. The percent of employers and trainees served by New and Expanding Industry, Focused Industrial Training, Small Business Center, and Apprenticeship Programs.	important	VI	I	NI
	feasible	VF	F	NF
22. The number of workplace literacy sites and the number of students being served at these sites.	important	VI	I	NI
	feasible	VF	F	NF
23. Employer satisfaction with graduates.	important	VI	I	NI
	feasible	VF	F	NF
24. Employment status of the college's graduates.	important	VI	I	NI
	feasible	VF	F	NF

Factor V: Community Service

25. The number of courses offered community service classes.	important	VI	I	NI
	feasible	VF	F	NF
26. The percent of persons from special populations enrolled in avocational, practical skills, academic, and recreational courses.	important	VI	I	NI
	feasible	VF	F	NF
27. The number of outside groups using college facilities.	important	VI	I	NI
	feasible	VF	F	NF
28. Local government support of the college.	important	VI	I	NI
	feasible	VF	F	NF
29. Non-government support of the college.	important	VI	I	NI
	feasible	VF	F	NF
30. The impact of the visiting artist program on the community.	important	VI	I	NI
	feasible	VF	F	NF
31. The college's support of civic and cultural events.	important	VI	I	NI
	feasible	VF	F	NF

Factor VI: Program Management/Accountability

32. The annual educational program audit summary, number audited, number of exceptions cited.	important	VI	I	NI
	feasible	VF	F	Nf
33. The percent of programs reviewed.	important	VI	I	NI
	feasible	VF	F	NF

34.	The percent of eligible programs accredited or reaffirmed.	important	VI	I	NI
		feasible	VF	F	NF

35. Please list critical success factors you think should be a measure of institutional effectiveness that are not listed above._____

_____

_____

Background Information

1. What is your current position? _____

2. Your gender _____Male _____Female

3. Your age _____

4. How long have you been affiliated with your college?_____

5. Your highest degree attained _____

If you would like a summary of the results of this study please provide your name and mailing address below:

Name _____

Address_____

_____

Thank you for your assistance and cooperation.

Please return survey to:

Mary F. Avery
5825 Meadow Lane
Salisbury, NC 28146

APPENDIX C

COVER LETTER

VIRGINIA TECH

May 30, 1991

)r. Richard L. Brownell
:owan-Cabarrus Community College
).O. Box 1595
;alisbury, NC 28145-1595

)ear Dr. Richard L. Brownell:

/e are conducting a study on Institutional Effectiveness in North :arolina Community Colleges. Specifically, we plan to assess the)erceived importance of each of the critical success factors :ecommended for measuring the effectiveness of the North Carolina :ommunity College System. Also we wish to determine how :easible it would be for your college to use these critical ;uccess factors in measuring the effectiveness of your college.

)residents and Institutional Effectiveness Officers in each of .he 58 community colleges are being surveyed. You can greatly .ssist us by completing the enclosed questionnaire and returning :t in the envelope provided by June 14, 1991. Ms. Kathryn Baker ;mith, Associate Vice President for Planning and Research, has :ndorsed the study and encourages your participation.

:ou may be assured of complete confidentiality. All data ollected will be numerically aggregated and all responses will e totally anonymous. The questionnaire has a code number so hat we may check your name off the mailing list when the uestionnaire is returned. Your name will never be placed on the orm itself.

:ou may receive a summary of the results by writing your name and ddress in the space provided on the last page of the uestionnaire. If you have questions, please call (Ms. Avery: 04-857-3011; or Dr. Morgan: 703-231-9717).

hank you for your assistance in this study.

Sincerely:

Mary F. Avery
Doctoral Candidate

Samuel D. Morgan
Research Advisor

APPENDIX D

ENDORSEMENT LETTER FROM DEPARTMENT OF COMMUNITY COLLEGES

DEPARTMENT OF COMMUNITY COLLEGES

NORTH CAROLINA STATE BOARD OF COMMUNITY COLLEGES
200 W. JONES STREET
RALEIGH, NC 27603-1337

RT W. SCOTT
n President

919-733-7051

October 18, 1990

Ms. Mary Avery
5825 Meadow Lane
Salisbury, NC 28146

Dear Mary:

Thank you for the opportunity to review your research proposal and questionnaire. Since we discussed the suggestions I have for modifications in our telephone conversation on Saturday, I will not repeat them. However, for the record, I do want to reinforce that the data you are proposing to collect will have significant value for the Department of Community Colleges.

While the state level critical success factors and measures were not written with the intent that they would be used to measure individual college performance, many of them are appropriate for that purpose. I have encouraged colleges to develop their own critical success factors and measures, perhaps using the state's as a beginning point. I understand that several are doing so. Your research would benefit them as well as providing the state office with valuable information on how the factors and measures are used and perceived by campus administrators. We try to improve the measures annually, and your data would help us in that effort. I am enclosing the current chart.

One other comment I failed to make when we talked; each of our colleges has a person designated as "institutional effectiveness officer". I would strongly encourage you to include them in your survey population.

Please keep me informed of your progress. You have my best wishes.

Sincerely,

Kathryn Baker Smith

Kathryn Baker Smith
Associate Vice President for
Planning & Research

BS

Enclosure

AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER

APPENDIX E

FOLLOWUP LETTER

VIRGINIA TECH

5825 Meadow Lane
Salisbury, NC 28146
June 15, 1991

ear Colleague:

Approximately two weeks ago you received a Critical Success actor questionnaire. If you have already completed and returned to me, please accept my sincere thanks. If not, please do so oday. Your help in this regard is vital to the completion of ie study.

I will very much appreciate your cooperation.

Sincerely,

Mary F. Avery

APPENDIX F

LIST OF INSTITUTIONS BY SIZE

NORTH CAROLINA COMMUNITY COLLEGES

INSTITUTIONS LISTED BY SIZE

Under 1500	1500-3000	Over 3000
Anson	Asheville-Buncombe	Alamance
Beaufort	Blue Ridge	Catawba Valley
Bladen	Caldwell	Central Carolina
Brunswick	Cape Fear	Central Piedmont
Carteret	Cleveland	Coastal Carolina
Halifax	College of Albemarle	Durham
James Sprunt	Craven	Fayetteville
Martin	Davidson	Forsyth
Mayland	Edgecombe	Guilford
McDowell	Gaston	Wake
Montgomery	Haywood	
Nash	Isothermal	
Pamilco	Johnston	
Piedmont	Lenior	
Richmond	Mitchell	
Roanoke-Chowan	Piat	
Sampson	Randolph	
Southeastern	Robeson	
Southwestern	Rockingham	
Stanly	Rowan-Cabarrus	
Tri-County	Sandhills	
Wilson	Surry	
	Vance-Granville	
	Wayne	
	Western Piedmont	
	Wilkes	

Based on 1989-90 average FTE.

VITA

Mary Frances Avery
5825 Meadow Lane
Salisbury, North Carolina 28144

Educational Experience

1992 Ed.D., Community College Education, Virginia Polytechnic Institute and State University, Blacksburg, Virginia

1990 C.A.G.S, Community College Education, Virginia Polytechnic Institute and State University, Blacksburg, Virginia

1973 M.A., Library Science, Appalachian State University, Boone, North Carolina

1968 B. S., Early Childhood Education, East Carolina University, Greenville, North Carolina

Professional Experience

1992- Director of the Center for Educational Studies and Development, University of North Carolina at Greensboro, Greensboro, North Carolina

1990-1992 Reference and Media Librarian, Catawba College, Salisbury, North Carolina

1989-1990 Graduate Assistant, College of Education, Virginia Polytechnic Institute and State University, Blacksburg, Virginia

1988-1989 Dean of Learning Resources, Rowan-Cabarrus Community College, Salisbury, North Carolina

1973-1988 Director and Associate Dean of Learning Resources, Rowan Technical College, Salisbury, North Carolina

1971-1973 Media Specialist, Rowan Technical Institute, Salisbury, North Carolina

1969-1971 Librarian, Northeastern High School, Elizabeth City, North Carolina

1968-1969 Librarian, Roanoke Rapids City Schools, Roanoke Rapids, North Carolina

Mary Frances Avery