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AN ASSESSMENT OF FLORIDA COMMUNITY COLLEGE PRESIDENTS'  
ACCEPTANCE OF QUALITY INDICATORS

by

GEORGE CAMERON BARCUS

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Education in  
the Department of Administration and Supervision at  
the University of Central Florida  
Orlando, Florida

May 1987

Major Professor: Thomas L. Harrow



## ABSTRACT

This report describes a study that was conducted to determine the perceived degree of usefulness the indicators of progress toward excellence have for the presidents of Florida's 28 community colleges. This study reports this degree of perceived usefulness by using a survey instrument that identified quality indicators developed by the State Board of Community Colleges, Florida Department of Education. Based on a project design and format adapted by the Florida Community/Junior College Inter-institutional Research Council, this study proposed to identify what information (indicators of progress toward excellence) is considered most valid to the presidents of Florida's community colleges in making quality-evaluation decisions about programs or services offered by their colleges. In addition, this study identified similarities and differences in the usefulness ratings of the indicators for the presidents by the program area in which they most closely associate themselves; by type of institution in which they serve and by other selected personal and institutional classifications. Chapter I includes an introduction to the study, its purposes, rationale, and scope. Chapter II reviews the literature in the area of quality indicators for education and the evaluation of educational quality. Chapter III contains a review of the problem, design of the study, development of the study questionnaire and outlines the design and methodology used in the study. Chapter IV contains the results of a survey of all 28 of Florida's community

college presidents and presents these findings in sections dealing with respondents' characteristics, results for all respondents, results by quality indicator groups, and by selected institutional characteristics. Chapter V contains a summary of the study, its results, conclusions, and recommendations. Appendices include the classifications used in the data analysis, the questionnaire, detailed survey results, additional indicators with ratings, and survey follow-up responses.



This is dedicated to my father, Carl F. Barcus. He taught me the value of honesty and hard work. I hope to teach my sons the same.

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## CHAPTER I

### INTRODUCTION

"If there has been an across-the-board failure to make progress, there should be new institutional leadership. The president should be fired" (Cobb, 1985, p. 41). Harsh words indeed, but these were the feelings expressed by a Tennessee State Legislator and chair of its Joint Education Oversight Committee when asked to respond to the charge that some institutions of higher learning are not being held accountable in meeting improvement goals. Accountability; it means to be responsible, to be held accountable, a word that is being heard more and more in the state legislatures across the nation as it relates to their desires to encourage educational institutions at all levels to be more responsive in meeting the expectations of the public they serve and the governing bodies that help them to serve. And what are these institutions to be accountable for? For the most part, better use of limited resources and a clearer mission direction, but above all, higher quality in their programs and performance.

It is this issue of quality that now dominates the attention of those involved in higher education, and just as equity and access were the major issues of the 60s and 70s, quality has shown itself to be of principal concern in the 80s (Steuart & Rathburn, 1982, p. 1). The signs of waning public confidence in higher education are becoming increasingly evident. Students, parents, leaders of industry, and



taxpayers are taking these institutions to task; requiring them to defend their ability to meet the needs of those who are served by their efforts. This observation is evident in a statement taken from the text of a report titled "Involvement in Learning: Realizing the Potential of American Higher Education."

The strains of rapid expansion, followed by recent years of constricting and leveling enrollments, have taken their toll. The realities of student learning, curricular coherence, the quality of facilities, faculty morale, and academic standards no longer measure up to our expectations. (Study Group on the Conditions of Excellence in American Higher Education, 1981, p. 36)

Serving the public, maintaining and improving quality, and adhering to increased fiscal demands has placed higher education in a dilemma. This is a dilemma that has produced an emphasis on accountability and has resulted in a "run" on evaluation activities related to higher education (Steuart & Rathburn, 1982). These evaluation activities, for the most part, have focused on the need to maintain and improve quality of programs and services offered by higher education institutions during a time of broadening student access while at the same time maintaining fiscal constraint (Craven, 1980).

Bowen (1974), Craven (1980), and Skinner and Tafel (1986) have helped identify efforts that have been underway to address this issue of quality of educational programs and services, and have also identified the fact that these efforts have drawn attention from both within the institutions and from state level governing bodies. This

issue of maintaining and improving quality at all levels of higher education is now being dealt with by the state's legislature ("Legislators Stress Quality," 1980). The education achievement goal adopted by the Florida State Board of Education reads in part:

On a statewide average, educational achievement in the state of Florida will equal that of the upper quartile of states within five years, as indicated by commonly accepted criteria of attainment. (Florida State Board of Education, 1981.)

In an attempt to address this objective, the Florida State Legislature adopted the Measurement and Reporting on Educational Excellence Act, 6A-10.243, contained in the Florida Administrative Code of 1984. This law was intended to measure educational excellence in universities, community colleges, schools, and school districts in Florida. Identification of educational excellence is measured in terms of indicators of progress adopted by the State Board. It is these indicators of progress and their use with Florida's community colleges that is the focus of this study.

#### Purpose of the Study

Our present procedure for assessing quality in higher education needs to be restructured. [These traditional] approaches no longer meet the needs of institutions serving a wide variety of students. (Dickey, 1971, p. 146)

The purpose of this study was to determine the perceived degree of usefulness the indicators of progress toward excellence have for the



presidents of Florida's 28 community colleges. This study identified this degree of perceived usefulness by using a survey instrument. This survey requested that the presidents rate, on a 10-point scale, statements that reflect the information required of each indicator as they relate to progress toward excellence. As Steuart and Rathburn (1982) have pointed out, the determination of educational quality, regardless of how it is defined, involves decision-making by program administrators. They additionally point out that this decision-making process requires the use of some information about the program or service being evaluated. Because of their position of authority and ability to affect the overall quality of an institution, the presidents' perceptions concerning the degree of usefulness a particular indicator of quality has are of importance. The work of Stufflebeam, Foley, Gephart, Guba, Hammond, Merriman, and Malcomb (1971) has defined evaluation in terms of the process of delineating, obtaining, and providing useful information for judging decision alternatives. With the use of this definition, it could be argued that the development of quality evaluations for educational programs and/or services can be viewed as a process involving the identification of what information about a program or service is perceived as most useful to the responsible administrators (Steuart & Rathburn, 1982). Stufflebeam et al. identified the importance of the input of the potential decision maker in the determination of pertinent evaluation information. They suggest that the determination of useful information can only be obtained by the evaluator in interaction with his/her client [decision maker]).



Alkin (1969) contributed to this view of evaluation and advanced the idea that the process of selecting the appropriate information is the central step in any evaluation process.

This study, based on a project design and format developed by Steuart and Rathburn (1982) that was adapted from a methodology used by the Educational Testing Service, proposes to identify what information (indicators of progress toward excellence) is considered most valid to the presidents of Florida's community colleges in making quality-evaluation decisions about programs or services offered by their colleges. In addition, this study will identify similarities and/or differences in the perceived mean usefulness-ratings of the indicators for the presidents by the program or service area they most closely associate themselves; by type of institution in which they serve and by other selected institutional classifications which can be used for identifying similarities or differences. Through the identification of these similarities and differences, indicators of progress toward excellence profiles will be produced for a variety of program and institutional settings. These profiles could be used to assist in the task of updating and amending the present indicators.

#### Rationale

The rationale for the study was that in order to better determine the indicators that reflect the degree of movement being made toward the goal of achieving educational excellence (as determined by the Florida State Legislature), those indicators must be in concert with the perceptions of the presidents of Florida's community colleges in

order to be considered accurate and meaningful. Collecting data and supplying documentation on indicators that are considered inappropriate or valueless in helping the community college presidents and state level governing bodies assess this movement toward excellence can be more than a misuse of time for the community colleges and its limited resources, it can in fact be counterproductive in terms of contributing to a negativeness toward the entire assessment program. To address this problem, the State Board of Community Colleges, Florida Department of Education, established a Quality Indicators Task Force. Along with other endeavors, members of the Task Force felt that a survey of the Florida community college president's opinions concerning the usefulness of the indicators would be valuable to the effort of determining the effectiveness of the indicators. The results of this research study will be used to assist the Quality Indicators Task Force in their efforts. At present, a disconnect exists in the system of developing the indicators without first determining the perceptions of those individuals whose position and authority can positively contribute to the acceptance and advancement of the use of the indicators. Therefore, this study was specifically undertaken to identify the perceptions of Florida's community college presidents concerning the usefulness of the indicators used to assess the movement being made by the community colleges toward reaching the educational achievement goal as set by the Florida State Board of Education.



### Scope of the Study

The study was limited to the presidents of Florida's public community colleges. It was anticipated that all of the presidents would participate in the study. The data were collected by use of a survey instrument (questionnaire) and represented the expressed opinions of the presidents surveyed. Although they may be applicable to similar community colleges or community college systems elsewhere in the nation, the results of the study are descriptive of the situation in Florida's public community colleges.

The study was limited by three factors:

1. Because attitudes and perceptions change, the responses identified in the study were reflective only of the time period during which the study was conducted.

2. The survey instrument (questionnaire) used to gather information for the study was constructed for this specific task. A respondent's understanding of the items might have differed from the understanding intended by the researcher, although a review panel was used to establish face validity for the questionnaire.

3. Although specifically asked to respond themselves, some presidents may have elected to have someone else on their staff respond for them.

### Organization

The study is organized into five chapters with additional appendices. The first chapter includes an introduction, a statement of the purpose of the study, rationale of the study, scope of the study,



and organization of the report. The second chapter presents a review of the related literature, including a discussion of quality indicators and the evaluation of educational quality as it pertains to higher education and the community college. The second chapter also defines related terms, identifies models of quality evaluation, and describes current practices. Chapter III contains the method of developing the questionnaire and the methodology utilized in the study. Chapter IV presents the results of the study. Chapter V contains a summary of the results, the conclusions drawn from this study, and recommendations of the study. Appendices include the classifications used in the data analysis, the questionnaire, detailed survey results, approval letter, additional indicators with ratings and survey follow-up responses.

## CHAPTER II

### LITERATURE REVIEW

A review of the literature in the area of quality indicators and evaluation of educational quality shows two main topics emerging: The search for how to define, attain, and maintain quality is ever continuing in the field of education; and the need to develop the tools of evaluation required to determine this quality. This chapter reviews and summarizes the literature in the area of educational quality and educational quality assessment. In addition, a review of the current practices used at community colleges to attain and maintain "quality" programs and services is presented.

#### Quality Indicators for Education

If two things are certain, it is that no one seems able to agree on exactly what educational quality is, or how to go about evaluating something that no one can agree on. Such is the task, as described by Dr. Maxwell King (1981), President of Brevard Community College in Florida, in discussing procedures for determining the meaning of educational quality:

Quality in education is not an absolute. It can only be evaluated in terms of arbitrarily determined standards, and these in turn



depend partly on subjectively formulated aims and partly on objective statistical procedures . . . . Education is quality education to the extent that it meets the needs of the people being served. (p. 1)

In December 1981, the community college Council on Instructional Affairs and the community college Council of Student Affairs formed a committee to recommend indicators of quality in Florida community colleges. From this effort, 351 potential indicators of quality were considered (Bittner, Bungert, Guthrie-Morse, Mellan, Raines & Sawyer, 1982). This committee agreed, ". . . that although much is discussed and written about quality, the measurement of quality remains subjective and judgmental" (p. iii). Webster (1981) wrote about the methods of assessing academic quality and concluded that there is a long way to go before the results of the such studies are generally accepted. Scriven (1973), Craven (1975), and Gardner (1977) have addressed the related area of educational evaluation. Their approaches range from a model that assists decision-makers in the determination of the objectives of a program to a decision-oriented model of educational evaluation, and also, the goal-free concept. This concept suggests that if the main objective of evaluation is to assess the worth of outcomes, then no distinction should be made between intended versus unintended outcomes and that the evaluation should be conducted without reference to a program's goals or objectives. It is this diversity of thought on the concept of assessing educational quality that makes the job of

addressing the scope of literature related to this field a challenge. Many have attempted to define and explain the concept of educational quality, but few can completely agree on a definition or explanation.

This section of the literature review is presented in two parts. The first part reviews the attempts to define and assess quality programs and processes within the community college. Associated studies related to educational quality at the university and upper levels are also discussed. The second part provides an overview of the current practices and models that are being used at community colleges to evaluate educational quality.

#### Search for Quality

If quality in the community college is to be addressed, it must be addressed in the context that as an educational institution, the community college is not and should not be considered a second class university. The objectives of each (universities and community colleges) are distinct and separate. Priest (1980) recognizes the differences between the missions of community colleges and those of upper-level colleges (universities) and suggests that quality standards need to be different as well. He recommends that quality standards be established for community colleges to reflect their unique missions and goals. Although the most distinctive characteristic of the community college movement has been the absence of admission standards, he contends that this does not indicate a lack of concern about exit standards. In fact, those characteristics of the community college: student-centeredness, a focus on teaching, and responsiveness to



change, are part of the new view of quality for higher education. Being different, he suggests, should not indicate being less.

The requirement to maintain and improve standards of operation and success has placed the community college in the spotlight. Cohen (1981), in his paper "Searching for Quality," cites a decline in quality at the community college as evidenced by the move toward open enrollments, reduced academic requirements, promotion of sporadic course-taking patterns, and vocational, as opposed to general education. He suggests that these (community) colleges have a responsibility to examine the effects of curricula shifts to precollege-level course work, of allowing the level of transfer courses to deteriorate, and of promoting intermittent rather than sequential curricular structures and student attendance patterns. Thompson (1985), on the other hand, asserts that open door admissions and educational quality are not in conflict but in fact are desirable. She stresses that the community college can support quality in an open door admissions environment if the institution is committed to reasonable achievement standards. Eaton (1985) also suggests that access, excellence, and equity can be combined, with the help of a revised access model for community colleges. The model would merge the desirable elements of competitive selection and open enrollment. Miami-Dade Community College has attempted to maintain access and academic achievement by use of a system called Standards of Academic Progress. The elements of this system include: reduction of course load with appropriate

educational interventions, periods of separation from the college, use of a two-track monitoring system, and administrative review of all students at the end of each term (Kelly, 1985).

Others have studied quality assessment of community colleges and have found it to be a multifaceted problem. Palmer (1983) identifies five areas that are determinants of quality for the community college. These areas are: (a) measures related to instructional resources, including number of course offerings, faculty characteristics and effectiveness, student characteristics, and financial support; (b) factors related to instructional and management processes, such as faculty evaluation systems, budgeting, educational delivery, and program evaluation; (c) student outcome measures, including follow-up of graduates' success in finding employment or transferring to a four-year institution; (d) value-added approaches to quality, which attempt to document student learning gains; and (e) measures related to curriculum structure and emphasis, including the degree to which general education and the liberal arts are integrated into vocational programs, and the question of academic standards. Burrill and Chapdelaine (1982) define quality in terms of whether a service or product meets or exceeds prespecified standards and can be measured in relation to defined outcomes of a short-, medium-, or long-term nature. Roueche and Baker (1985) address the difficulty associated with defining a related term; "excellence," and the problems involved with measuring "success." They contend that excellent community colleges are led by competent and committed presidents and deans, and that



quality in the classroom is a value shared throughout the institution. These authors go on to develop what they believe are the attributes of excellent schools, they include:

#### Strategy

1. Clear academic goals
2. Emphasis on academic learning time

#### Structure

3. Well-articulated curriculum

#### Systems

4. Systematic evaluation of instructional improvement
5. Emphasis on monitoring student progress

#### Style

6. Emphasis on order, purpose, and coherence
7. Emphasis on student response, abilities, and participation

#### Staff

8. Emphasis on leadership

#### Skills

9. Emphasis on teamwork
10. Teacher efficacy
11. Student rewards and incentives
12. Faculty rewards and incentives

#### Shared Values

13. Positive school climate
14. High expectations
15. Community support and involvement (p. 22).

Handleman (1980) has reviewed the decline of educational standards as reflected in national test scores and identified four pedagogy causes: the abandonment of written tests in favor of objective, true/false testing techniques; nonpunitive grading and attendance policies; excessive use of technology in the classroom; and academic grade inflation. Other researchers have focused on the changes caused in community colleges by open access policies and the resultant influx of underprepared students. Among other recommendations, it has been suggested that the community colleges accept a decline in student enrollment in exchange for improvement in student achievement. The experiences of those community colleges that have been willing to accept a decline in student enrollments in return for an improvement in achievement for those who remain suggest that the time may be right for a general reexamination of the policy decisions of the 70s. The faith in higher education along with the zeal of those who saw such innovations as mastery learning, systems approaches, and communication technology as answers to all learning problems, led policy makers to overestimate the results of improving access (Richardson, 1983). Complimenting this position, Koltai (1982) contends that community colleges must help people feel, think, and act. She advocates that a quality (this author's emphasis) community college strives toward higher levels of proficiency and more emphasis on general education. She suggests that it is not too much to expect that the requirements for the associate degree prepare individuals to confront our cultural condition without complacency, to avoid the pitfall of progressing,



both individually and collectively, from one accomplishment to another, without ever stepping back to take a look at the total picture. Koltai and Wolf (1984a) continue this line of thought by suggesting that in order to improve quality in the community college, greater care must be taken in curriculum structuring, that vocational programs adopt more stringent standards, and that reforms emerging in secondary education be noted.

In related areas, Kaplan (1984) has identified the practices that ensure institutional success in industrial training. His findings show impact is gained from attention to institutional commitment and flexibility, recognition of student achievement, and the president's role in encouraging a "quality" commitment. Additional qualities include the use of honors programs for superior students, emphasizing the desire to teach in faculty selection, maintaining academic standards through institutional reviews, honoring outstanding instructors, and future planning of ways to promote quality in the community college (Smith, 1983). As evidence that these types of reforms do produce results, McCabe and Skidmore (1983) studied Miami-Dade Community College's comprehensive educational reform and the results of a longitudinal study comparing student performance prior to and after the reform. They conclude that the reforms that have been put in place do improve the educational outcomes of the students affected.

Building on the notion that not only instructors, but other "support" personnel and services at the community college can impact the success of the institution, Koltai and Wolf (1984b) have identified



the critical issues that face community college presidents and found them to be: finances, access, quality, and technology. Of particular concern, they suggest, is the overall mix of offerings in the (community college) institutions. Over time some colleges have greatly reduced their emphasis on the liberal arts. This has not necessarily been the result of a conscious process, but rather reflects the effects of responding to various local needs over an extended period. To the degree that an institution moves away from the core material of higher education, it runs the risk of moving to the periphery of the American education system. That is, the community colleges will look more like the proprietary or extension schools and less like the full-fledged members of higher education that they are used to being, with all the consequences with respect to public support that these perceptions imply. Others have identified the need for financial administrators in community colleges to be aware of the trends in public policy at the federal, state, and local levels. Responding to these trends could improve the financial position of the institution and in turn improve the "quality" of its services (Alfred, 1985). Still others have identified those elements required to attain and maintain excellence for educational programs in learning centers away from a central campus. Those elements include: (a) enhanced credibility for the director of continuing education; (b) a clear definition of roles and functions of the college and its local school district; (c) a liaison between the college president and the superintendent of the local school district; (d) scheduling based on student and community needs,



(e) strong public relations with the community based on open communications, and (f) a replication of support services available to the central campus (Herder & Strandridge, 1980).

Pugh (1980) has even addressed the problem faced by the community college when the educational franchise is extended to increasing numbers of non-traditional students. Specifically, success has been achieved for Hispanic Americans with the use of bilingual/bicultural programs. In an attempt to maintain equality, Pugh suggests that new approaches must be found to insure quality instruction for all students, traditional as well as non-traditional.

#### Quality and the Community College

In an attempt to document the efforts of community colleges to attain and maintain quality programs and services, educational researchers have surveyed, observed, and compiled various statistics that they feel give an indication of how well these efforts have fared. Smith (1984) developed a program review process for the Anchorage Community College, Alaska, that used performance criteria in the assessment of program quality. These criteria were: clear program goals; goal-congruent, instruction-related activities; consistency of the program with educational intent; integration of the curriculum with that of other programs and the institution as a whole; satisfactory vertical mobility (i.e., articulation with other community college or university programs); effective personnel utilization; cost effectiveness; and strategic advantage. Dubocq (1981) has addressed the attempts made by Miami-Dade Community College to tighten controls on its

curriculum, faculty, and students. In short, Miami-Dade Community College has made a commitment to achieving higher levels of literacy. Likewise, the development of a professional development program at Golden West College, Washington, has been described as a model of success. This program, among other things, involves all college personnel and utilizes campus resource persons in staff training (Shaw, 1984).

Some researchers have looked beyond the specific community college and have addressed the attempts made to improve quality throughout the community college as an educational system. Keim and Keim (1981) have addressed the approach used by many community colleges by which they actively market the recruitment and retention of students. They have also explored the potential for coordination with universities in the development of a marketing plan. Seitz (1981), in his studies, has defined the importance of occupational program reassessment in resource allocation and program planning. The work of Roueche and Watkins (1982) has identified ways community college leaders may evidence commitment to excellence through formal evaluation systems, awareness of excellence and incompetence, and identification and elimination of barriers to instructional quality. Some of the ways that they suggest commitment is achieved by community college leaders include:

1. The college has a formal, rigorous evaluation system.
2. The college emphasizes and rewards great teaching but also sanctions incompetence.



3. The college ferrets out and recognizes excellence in all of its forms.

4. The college identifies barriers to excellence in teaching and visibly works on reducing or eliminating them. (p. 24)

McCabe (1981) suggests that systematic community college reforms are required to maintain open access and meet demands for higher academic standards and fiscal responsibility. McCabe recommends these basic changes:

1. The (community) colleges should raise their expectations of students.

2. The (community) colleges should become more directive.

3. (Community) colleges should provide more information to students.

4. There should be variable time and variable service programs.

5. (Community) colleges must make a commitment to hold to standards, and implement programs which will ensure adherence to that commitment.

6. There must be a point at which it is determined that the student is not going to succeed at the institution, and further public investment is not justified. (p. 10)

Ostar (1973) has also identified the difficulty of measuring educational quality and suggests that a far different formula is needed to measure the quality and effectiveness of higher education--one which measures accurately the true function of (community) colleges and universities; the education and socialization of students. He identifies

a standard currently employed by educators. This is a traditional standard which defines institutional quality in highly quantifiable terms. According to this traditional measure/standard, institutional quality becomes the coefficient of the number of volumes in the library, the student-faculty ratio, the adequacies of the physical plant, and percentage of Ph.D.s on the faculty. Ostar notes that these factors are quantities and as such they are inputs into the higher education process, not the results of the process, and as such they give little indication of how well the college or university fulfills its true purpose: educating and socializing. Schneider, Klemp, and Kastendiek (1981) suggest that excellent colleges exist because of excellent faculty. Excellent faculty are those who engage students in their own learning while demanding excellence. They describe effective teachers of adults as those who successfully perform a balancing act. They balance classroom teaching with mentoring or advising on a one-to-one basis; student-centeredness with highly directive and prescriptive behavior; and a clear focus on task with creative, flexible options for student participation.

#### Quality: Assessment and Identification

Numerous attempts have been made to assess and identify "quality" programs and services at the community college level. These evaluation techniques have taken many forms and have addressed the range of variables that make up the instructional delivery system, support system, maintenance, and advancement of the community college. Cheshire and Hagermeyer (1981) report the work accomplished by the faculty, staff,



and administration of Central Piedmont Community College, North Carolina, in developing a fair, objective, and effective system for evaluating their own job performances. One aspect of the development of this evaluation system was to identify the purpose and objectives of the system. The purpose of the evaluation system was to encourage all personnel to aspire to higher levels of performance in service to students, the community, and the institution. The objectives were:

1. To identify standards against which each employee's performance can be measured;
2. To identify and recognize individuals who are performing in an outstanding manner;
3. To identify and provide assurance to those individuals who are performing at a satisfactory level;
4. To identify and assist individuals whose performance needs significant improvement. (p. 34)

Lowe (1983) assisted in the development of an evaluation system designed to assess the instructional and non-instructional programs at Foothill College, California. In this system, the charge was to determine whether the objectives of the programs were being met and to ascertain the direct and indirect costs of the programs. Burson (1982) and Yess (1983) both addressed the issue of faculty evaluation. Burson identified the development of a community college evaluation system that encourages instructors to be personally accountable for their professional role and to emphasize evaluation as a source of instruction rather than as a punitive process. Yess designed an aid for

faculty and administrators of community colleges that offered guidelines for reviewing academic programs. This approach included the use of "value-added" evaluation techniques. Saunders (1981) identified five instructor roles as part of a two-year project undertaken at Shelby State Community College, Tennessee, to revise the institution's annual faculty evaluation. These roles included: (a) instruction; (b) service to the college; (c) professional growth; (d) professional activities within the faculty member's area of expertise; and (e) community or public service activities. Kocher and Houston (1983) developed and implemented an impartial and equitable method of faculty evaluation for the Mountain Empire Community College, Virginia. Their work involved the development of an evaluation instrument that provides both a quantitative and qualitative student rating of faculty. This instrument contains questions covering the syllabus/course outline, objectives, course content, grading system, assignment, identification of student responsibilities, and the instructor's fairness and ability to stimulate students and help them comprehend. Others, like Piland (1984) and Haugen (1984), have directed their research concerns toward the use of these student evaluations. Piland considered the perceptions of community college students, faculty, and administrators concerning the objectivity of student evaluations of instruction. This researcher considered the seriousness with which students undertake instructional evaluations on instructor's performance, and the use of student evaluation. These findings suggest that administrators and students tended to agree with items (of the research instrument used)



that reflected the seriousness with which students undertake instructional evaluation. Faculty did not share the same opinions. Without the proper dialogue between faculty and students regarding the students' mental set when rating teachers, faculty may question the seriousness of the results obtained from the ratings. It was shown that administrators and students, interacting with faculty, need to review research findings concerning student evaluation of instruction if (this type of) evaluation is to have an impact on improvement of instruction. In related research, Haugen examined the relationships between student ratings of community college instructors teaching in university transfer programs and the instructors' pedagogical training, subject-matter preparation in teaching field, and length of teaching experience. These studies have shown that students do give higher ratings to teachers with pedagogical training. However, Fitzgerald and Grafton (1981) have described a study in which they investigated relationships between community college faculty's evaluations by peers and students, revealing a high degree of consensus but higher ratings from peers than students.

Cashin (1983) addressed the general problems related to faculty evaluation systems and student ratings in the community college and recommended using student rating data in conjunction with other sources of information to compensate for its limitations. Cashin additionally cites that a major source of difficulty with any evaluation system is the confusion between evaluation and development. Both involve the gathering of accurate, meaningful, and interpretable data. However,

the intent of evaluation--summative evaluation--is to make personnel decisions. The intent of development--formative evaluation--is to gather diagnostic data to help the individual teacher improve. Evaluation must be comprehensive. It must cover all of a faculty members' overall performance. For development, it is sufficient if data are obtained in those areas the faculty member has selected for improvement. Also, a general problem with evaluation systems is that, in a desire to be fair, they try to treat everyone uniformly. The only way an evaluation system can be fair is to recognize the real and legitimate differences in various academic programs. Requiring the same kind of academic credential for every instructor may be inappropriate. If one is teaching building trades, being a master plumber is more important than being a master of arts. Walters (1970) developed a study to identify indicators of quality for public junior colleges through an analysis of peer opinions obtained from evaluations of selected institutions. The source of the peer opinions was visiting committee reports of the Southern Association of Colleges and Schools. These findings showed that most of the indicators identified related to the procedures used within the colleges, the efficiency of operations, the staffing levels, and the relationships between individuals in the hierarchical structure. The evaluation committees, whose reports were used for the study, did not express opinions regarding student success and achievement, the products and results of the institutions' operations, or the effectiveness of the institutions in fulfilling their



purpose. Identifying, in effect, additional problems associated with attempts to assess and identify quality at the community college level.

While some researchers have dealt with the question of student ratings in community colleges, others have researched the need to identify criteria used to assess faculty development programs in community colleges and the extent to which these colleges believed the evaluation standards were being met (Smith, 1981). Still others have explored staff evaluation in the 70s in the areas of faculty evaluation; the student role; evaluation criteria, programs, and systems; and administrator evaluation. As has been stated, it has been shown that the concerns expressed in the 70s are still prevalent in the 80s (Palmer, 1983). As a way to address these concerns and in an attempt to minimize the negative consequences of adversary faculty-administrator relationships found in most community college evaluation systems, Mark (1982) has offered guidelines and recommends a system based on considerations such as faculty involvement, publicized purposes, peer, self, student evaluations, and feedback. Van Allen (1982) compliments this position and concludes that student evaluation affords a powerful device for describing teacher effectiveness after studying the results of a student assessment of instructor performance in the North Carolina Community College system. Smith (1983), however, has pointed out an emerging concern of the legal considerations associated with educational evaluations. He cites the work done by Thomas (1981) when he compiled an extensive list of legal considerations which were offered to help colleges avoid any legal entanglements that might arise

as a result of new or revised staff evaluation plans. This list includes:

1. The criteria should be developed from a job analysis (job related) through content validation procedures.
2. Administration, faculty, and students should be involved in the development of the system.
3. Individuals evaluating job performance should observe employees frequently.
4. Where possible, evaluations should be based on observable job behaviors.
5. Evaluation forms must be written in clear and concise language, including directions and purpose.
6. Evaluations should be conducted and scored under standardized conditions.
7. Evaluators must be trained in the use of the instrument.
8. Several evaluation sources are required and their evaluations should be independent.
9. Performance evaluation must be conducted before any personnel decisions can be made.
10. Evaluations should be supported by objective evidence of performance results.
11. Student evaluations with comments about the faculty member must not be summarized. Either all or none of the comments should be made public.



12. Classroom observations by colleagues must follow a list of teaching behaviors known to the faculty member being observed.
13. Self-appraisals must not be used for tenure, promotion, and retention decisions.
14. Criteria, standards, and procedures should be communicated to the persons being evaluated.
15. Faculty should be informed of the results of their performance evaluations.
16. The evaluation system must not be discriminatory in intent, application, and results. (p. 106)

Smith goes on to reveal that this list of legal considerations was developed using references of Holley and Field (1977), Kaplin (1979), and Seldin (1980). Thomas (1981) was careful to note that this proposed set of guidelines provided no guarantee that an institution following these suggestions would not be found liable in a court suit. However, she felt that the probability of such an outcome would be considerably reduced if these guidelines were followed.

Legal considerations aside, Hinkley (1983) has addressed the concerns many community college faculty have expressed about lagging academic standards. The key, he suggests, is first agreeing upon the standards required, and then conveying these standards to the student. Taking a slightly different approach, Andrews (1985) suggests the first step in evaluating for excellence in the educational setting is to develop a profile of the strengths and personality factors to be looked for in job candidates. Richardson (1984) has worked with the urban

community colleges to assist in determining their goals and objectives and success in achieving them. He suggests that the two fundamental criteria for determining this success are effectiveness (i.e., performing a legitimate function for which a need exists at some level of quality) and efficiency (i.e., producing at as high a level of output as possible with as low a level of inputs or costs as possible). He further asserts that the main difficulty in determining the success of community colleges arises from the different views of effectiveness. Others approach the problem of identifying and assessing educational quality from different perspectives. Dzierlenga (1980) included the assessment of part-time faculty performance as an important evaluation tool for community colleges. Pealer (1980) addressed the use of a telephone survey of the community to assist the Central Florida Community College to identify the educational needs of its service district.

A related concern has been expressed by Veit (1980) in his questioning of the propriety of the inservice training and administrative supervision found in the community colleges where standards are established by non-teaching administrators. He suggests that these programs should be monitored by discipline-oriented professional associations outside the institution. Yess (1981) has questioned the propriety of using community college faculty rating instruments constructed through collective bargaining without scientific pilot testing of those instruments. Additionally, Kennedy (1980) has identified a need for long-term strategic planners for two-year colleges to use prognostic data as a means of assisting decision-makers in the proper allocation



of college resources. In an attempt to determine the effect of changes in fiscal support on the quality of educational programs in California's community colleges, Silverman (1983) has shown through his studies that faculty burnout, staff development, and library expenditures, and state support per average daily attendance are the most sensitive to funding level changes. Sanchez (1980) addressed the methods of administrator evaluation used in community colleges and found that the demand for accountability, the shifting roles of the president, and the growing complexity of community colleges has increased the interest in the need for administrator evaluation.

Much has been done to address the differences between community, technical, and junior colleges with the work of Parnell (1982) paramount in identifying the misunderstandings about the nature and role of these institutions. Clowes (1981) proposes a community college program review model which promotes institutional autonomy and satisfies accountability demands. He further recommends that community colleges use a need/access model rather than the equality/excellence model appropriate for universities. Just as Nussbaum (1983) has recommended to the Board of Governors of the California Community Colleges new minimum standards in the area of instructional programs, faculty, and facilities, Nagel (1981) had already identified that of 39 image sources cited by community college presidents, student performance was rated as most influential. Magoun (1966) and Gourman (1967) helped identify the concern associated with "quality" and higher education institutions. Gourman observed:

"Quality is vital because reputation or image and quality do not always coincide. For instance the regional and national accrediting associations are concerned about quality but not in any precise or useful way to the public. Accreditation is mainly finding that an institution is not conspicuously defective in physical and faculty resources. (Gourman) finds that the assets and liabilities are not known. There are clusters of accredited institutions lacking in essential elements. Institutions which are far apart in quality receive the same approval in terms of certification to the public. The public is not informed about the facts (p. i).

In the attempt to make these facts known, researchers have worked to develop the tools of educational evaluation that are suitable to the task of identifying "quality" programs and services within higher education.

### Evaluation of Educational Quality

In order to understand the body of knowledge that relates to evaluation of educational quality, a review of the models, terms, and practices that are presently in use is helpful.

#### Defining the Terms

In order to understand the process of educational evaluation and educational quality assessment, it is necessary to have a common understanding of the terms and terminology used in each process. Popham



(1975) has identified five terms that are used to describe educational evaluation. These terms and their definitions are:

1. Measurement: First, measurement should not be equated to evaluation. They are not the same. Evaluation connotes a "determination of worth," whereas measurement is the act of determining the degree to which an individual possesses a certain attribute.
2. Grading: The process of engaging in an assessment of merit.
3. Accountability: An attempt to define the degree of worth of a program or service, for use by an external decision-maker.
4. Assessment: A term which is used interchangeably with "measurement," assessment can mean both a valueless measurement or type of systematic evaluation.
5. Appraisal: A term synonymous with "evaluation." It is an attempt to determine the worth of a program, service, or delivery method. (p. 11)

Bloom, Hastings, and Madaus (1971) suggest that the purpose of evaluation, as it is most frequently used in the existing education systems, is primarily the grading and classifying of students. They propose a broader view. Their view encompasses:

1. Evaluation as a method of acquiring and processing the evidence needed to improve the student's learning and the teaching.
2. Evaluation as including a great variety of evidence beyond the usual final paper and pencil examination.

3. Evaluation as an aid in clarifying the significant goals and objectives of education and as a process for determining the extent to which students are developing in these desired ways.
4. Evaluation as a system of quality control in which it may be determined at each step in the teaching-learning process whether the process is effective or not, and if not, what changes must be made to ensure its effectiveness before it is too late.
5. Finally, evaluation as a tool in education practice for ascertaining whether alternative procedures are equally effective or not in achieving a set of educational ends.

Stufflebeam, Foley, Gephart, Guba, Hammond, Merriman, and Malcomb (1971) described three definitions of educational evaluation from which most others are derived. These three include: (a) equating evaluation with measurement; (b) involving the determination of the congruence between performance and objectives; and (c) the process more commonly identified as professional judgement. Pyatte (1970) and Doll (1970) defined evaluation as the deliberate act of gathering and processing information according to some rational plan, and as "a broad and continuous effort to inquire into the effects of utilizing educational content and process according to clearly defined goals" (Doll, p. 361), respectively. Much earlier, Cronbach (1963) defined evaluation as the use of information collected to make decisions about an educational program. Others, such as Bowker (1964), Gourman (1967), and Webster (1981) have built on the framework of educational evaluation techniques



to develop "quality" assessment procedures and have applied them to institutions of higher education.

#### Models of Quality Evaluation

In an attempt to apply the methods of quality evaluation and assessment developed by numerous researchers and educators, the work of Fotheringham (1979) described these types of quality indicators as including context (described as variables which include number of library books, administrative policies and physical facilities), faculty input, faculty-student interaction, and student input. The purpose was to determine the views of presidents, deans, and local trustees toward selected indicators of quality in higher education. From this study, ten indicators were identified as the best indicators of quality. They were:

1. Increase between admission and graduation in students' scores on a test of ability to reason and think critically.
2. Percentage of graduates who obtain recognition in their chosen field.
3. Scores of graduating seniors on a test of critical thinking skills.
4. Increase between admission and graduation in students' scores on a test of reading and writing skills.
5. Increase between admission and graduation in students' scores on a test of general knowledge.
6. Number of library books borrowed annually by each student.
7. Percentage of graduates who enter advanced study.

8. Number of faculty hours per week spent in conference with individual students.
9. Faculty-student ratio.
10. Scores of graduating seniors on a test of general knowledge.

Chapman (1978), Cates (1979), and Toth (1979) have attempted to identify models for determining such diverse variables as the evaluation of administration, instruction, and services of a community college, personal qualifications of faculty for the community junior college, and governance of community colleges. Each has approached his/her area of interest with a type of "quality" assessment technique that has identified indicators for determining program, individual, and administrative success. Bowker (1964) developed a number of criteria which can be used to rank graduate schools in the United States. This model of quality assessment used the technique of asking departmental chairpersons in arts and sciences across the country to rate the top departments in their fields, and then construct a composite ranking. However, the exception to this approach is expressed by Elbon and Rose (1972) when they question the objectivity of those who do the rankings and their own personal biases and possible lack of knowledge of the quality of all graduate schools. Olscamp (1978) addressed the problem of quantifying program quality and suggests that models of assessment that rely on quantifiable factors of an institution (e.g., volumes in the library) may completely overlook the part "quality" (that ingredient that distinguishes "good" from "best") plays in the actual assessment of that institution. Boyer (1964) was aware of this



intangible ingredient and described it as a "climate for learning" that pervades the institution. His is a good example of the difficulty in being able to define specifically what educational quality is and how to identify its variables and measure them.

Current practices have been built on the work of Keller (1969), Lawrence, Weathersby, and Patterson (1970), Turnball (1971), Lupton (1979), and Adams (1983) in which each has attempted to determine a means to assess educational quality as it reflects optimal programs, services, and management of community colleges and upper level educational institutions. These programs are just a sampling of the many presently in place and soon to be put in place as educational researchers continue the task of identifying, developing, and refining the tools of evaluation that are the mainstay for assessing and identifying "quality" educational programs and services.

### Summary

In this chapter selected related literature in the areas of quality indicators and evaluation of educational quality has been reviewed. It has been noted that it is this issue of quality that now dominates the attention of those involved in higher education, and just as equity and access were the major issues of the 60s and 70s, quality has shown itself to be of principal concern in the 80s (Steuart & Rathburn, 1982). The work of Bowen (1974), Craven (1980), and Skinner and Tafel (1986) has helped to identify the efforts underway to address the issue of quality of educational programs and services as well as helped to identify the fact that these efforts have drawn attention

from both within the institutions and from state governing bodies. King (1981) points out that quality education is not an absolute and that to achieve quality education one must first know what it is and how to measure it. The literature has shown that much has been done to address this issue of quality and quality indicators. The work of Webster (1981), Scriven (1973), Craven (1975), and others has dealt with educational evaluation and has helped to develop models for use in educational quality assessment evaluation. As part of the search for quality in the community college, Priest (1980) identified the fact that the differences between the missions of the community colleges and those of upper level colleges (universities) is real and must be allowed for in the use of these models.

In an attempt to define quality as it exists at the community college, the work of Dubocq (1981), Smith (1984), Shawl (1984), and others has been examined and it is clear that no one best approach has been found to identify quality programs or for that matter what quality programs really are. The more objective the researcher becomes, the more obvious it is that subjective biases influence the outcomes. By being too objective and in effect, counting only the books, the "feel" and "climate of learning" of the institution is overlooked. The task then becomes the development of an evaluation instrument that can assess the properties associated with "quality" programs and institutions and do it with a degree of accuracy and fairness that makes it acceptable to faculty, students, administrators, legislators, and taxpayers.



## CHAPTER III

### METHODS AND PROCEDURES

#### The Problem

The problem in this research study was to determine the degree of usefulness of the Indicators of Progress toward Excellence used by the Florida State Board of Community Colleges as perceived by the presidents of Florida's 28 community colleges. An additional purpose was to identify similarities or differences in the perceived mean-usefulness ratings of the indicators toward quality for the presidents according to various classifications including:

1. The program or service area with which the responding presidents most closely identified themselves.
2. The administrative areas within which the responding presidents have had prior experience.
3. Personal characteristics of respondents including sex, degree level, years in present position, years at present college, years in community college education, and years in education other than community college education.
4. General characteristics of the institution within which the presidents were employed including the market region, area vocational education school designate, total size of the institution in terms of the FTE served, the percentage of total college FTE served in the advanced and professional program area, the percentage of total college

FTE served in the occupational (vocational) program area, and the percentage of total college FTE served in the developmental area.

5. Opinions of respondents relative to the amount of time spent in, extent of involvement in, and level of experience in program quality-evaluation decision-making at their institution. Respondents were also asked to give their perception of the degree to which their position allows participation in these areas.

A description of these classifications is developed and displayed with the results.

The following sections describe the design of the study, the development of the study questionnaire, the survey population, the collection of the data, and the analysis of these data.

#### Design of the Study

This study was designed to assess the Florida community college presidents' perceptions of the usefulness of the Indicators of Progress toward Excellence used by the State Board of Community Colleges. The review of the related literature indicates that numerous methods for attempting to determine the quality of educational programs are available. The Florida State Board of Community Colleges uses a set of findings based on indicators of progress to determine movement toward excellence (Measurement and Reporting on Educational Excellence Act, 6A-10.243, Florida Administrative Code, 1984). Acceptance or rejection of this method of assessing movement toward educational excellence by community college presidents can be influenced by the degree these same presidents find the overall method and indicators to be useful to



themselves and to the goal of assessing their own college's movement toward excellence (Maxwell, 1986). From this, a survey design was adopted for this study and a questionnaire was constructed to measure the presidents' perceptions of the usefulness of the Florida State Board of Community Colleges Indicators of Progress toward Excellence. The approach to educational quality assessment utilized in this study was more of the traditional approach, but tempered with an attempt to add the element of acceptance from the community college presidents by allowing them the opportunity to give input into the quality indicators selection process. This research study was based heavily upon the same design and format used by Steuart and Rathburn for their study "Quality: A Decision Making Approach" which in turn was based on the research design used by the Educational Testing Service to assess quality in doctoral education programs (Clark, Hartnett, & Baird, 1976). The questionnaire was organized to collect data in four areas.

1. Demographic data of respondents. These data included the respondent's name, college, years in present position, years at present college, years in community college education, years in education other than community college education, age, sex and highest degree held.

2. Usefulness-ratings of the indicators identified for the study.

3. Degree to which their position is associated with each program area.

4. Opinions of respondents of the amount of time spent in program quality-indicators activities, the extent of their involvement in program quality-identification, their perceived level of experience in

program quality-evaluation decision making, and the degree to which their position was associated with each of these areas.

### Development of the Study Questionnaire

In order to assess the community college presidents' perceived usefulness of the Florida State Board of Community Colleges Indicators of Progress toward Excellence, a questionnaire based on the Steuart & Rathburn (1982) design was developed and used in this study that contained a list of 40 statements. These statements related to the Indicators of Progress toward Excellence and asked for respondents to rate them for their degree of usefulness in establishing progress toward excellence as defined in the Measurement and Reporting on Educational Excellence Act, 6A-10.243, Florida Administrative Code (1984). Twenty indicators were identified and two statements for each indicator were developed for use in the survey.

The indicators rated in this study were identified by combining those used for the 1985-86 academic year with the indicators developed in part by the Quality Indicators Task Force and submitted to the Department of Education, State Board of Community Colleges in 1986. This final list was checked by the Department of Education, State Board of Community Colleges and determined to be complete and suitable for use with this study.

Using the indicators contained in Appendix B and Appendix C, a questionnaire was developed to collect these required data. The questionnaire was submitted to the Florida State Board of Community Colleges and members of the Quality Indicators Task Force for review



and refinement. The questionnaire was evaluated and input was provided to refine the following areas:

1. The questionnaire format.
2. The questionnaire's directions.
3. The organization of the indicators.
4. The statements describing the Indicators of Progress toward Excellence.
5. The rating scale.
6. The time needed to complete the questionnaire.

The final form of the survey questionnaire that was a result of this review process is located in Appendix E.

The questionnaire consists of seven sections. Section one requests respondents to print their name and name of college in the appropriate area.

Section two describes the purpose of the study, the organization of the questionnaire, and the directions for completing the questionnaire. The indicator categories are described and directions for adding and rating any additional indicators is given.

Section three asks that the respondents check the one program area in which they feel they are most closely identified with in answering the questionnaire. Those program areas are: General (No specific area in mind), Advanced and Professional, Occupational, Developmental, Community Instructional Services, Student Support Services and Other. The Other category allows for a written-in response.

Section four consists of a series of questions designed to collect demographic data on the respondents. These data include years in present position, years at present college, years in community college education, years in education other than community college education, birthdate, sex and highest degree held.

Section five contains a description of the rating scale used to rate the indicators for the degree of usefulness as perceived by the community college presidents. An example of the rating scale is provided. The scale is: 10 being very useful, 7 being of some use, 4 being of little use, and 0 being of no use. The scale runs 10 through 0 and allows the respondents to rate the statements by degree of usefulness anywhere on the scale between 10 and 0. Respondents are asked to rate any indicators they perceived as not applicable to their respective institutions or programs with a "0". Those statements that are not rated for any reason are also given a "0" for analysis purposes. The statements to be rated follow.

The sixth section of the questionnaire requests that the respondents indicate the degree to which their position as president is associated with each of the following program areas: Advanced and Professional, Community Instructional Services, Developmental, Occupational and Student Support Services. The respondents are also asked to identify the amount of time they spend in program quality evaluation activities, the extent of their involvement in program quality-evaluation decision making at their institution and their perception of the level of experience they have in program



quality-evaluation decision making. The opinion choices available are: 1-NONE ("None of my activities or time"), 2=LITTLE ("Less than one-fourth but more than none of my activities or time"), 3=SOME ("One-fourth or more but less than three-fourths of my activities or time"), 4=CONSIDERABLE ("Three-fourths or more but less than all of my activities or time") and 5=ALL(TOTAL) ("100% of my activities or time). Directions are also given for adding any comments or indicators to the questionnaire.

Section seven gives directions for returning the questionnaire and offers a thank-you for the respondents' expenditure of time and energy on the project.

#### Collection of Data

While the questionnaire was being developed, the review panel was asked to estimate the amount of time needed for its completion. The estimate of time needed to complete the questionnaire was approximately 30 minutes.

As a way to gain support for this study, the endorsement of the Council of Presidents was sought. After this endorsement was granted, the survey, along with a cover letter from the Office of the Executive Director, State Board of Community Colleges, Florida (Appendix D) was sent to each community college president describing the study and requesting that they complete the survey and return it by a specified date. It was anticipated that a 100% participation rate would be achieved.

With the return of the completed questionnaires, the respondents were contacted, thanking them for their help, and requesting the return of any additional comments or information. Follow-up procedures involved three steps. First a letter was sent to those respondents from whom questionnaires were not received requesting that they complete the questionnaire at their earliest convenience and return it as soon as possible. When this process proved to be ineffective, a second letter was sent out which included a copy of the questionnaire and a request that the respondent complete and return it as soon as possible. When required, those who did not respond after a second letter were contacted directly either in person or by phone. Each respondent completing and returning the questionnaire was then thanked for his/her investment of time and effort in the study.

After receipt, each questionnaire was given an institution code based on the reported college. This code was used to identify the respondents for follow-up and to facilitate classification of the respondents for various analyses. As a supplement to the information collected from the survey questionnaire, 10 of the 28 presidents were contacted as a follow-up and asked to respond to five questions. The institution codes used for classifying the respondents and identifying the 10 presidents are displayed in Chapter IV, tables 2 and 3.

#### Survey Population

The identification of the presidents included in this research study was determined by the State Department of Community Colleges for each community college, and it was anticipated that 100% of the 28



Florida community colleges would participate in the study. This information may be found in Appendix A.

### Analysis of the Data

These data were analyzed with the assistance of the SPSSPC+, (Statistical Package for the Social Sciences) computer system for data analysis. The mean, standard deviation, variance, range, and measures of median and mode were calculated for each indicator for all respondents and for each classification of respondents described in the study. Using the calculated means, the indicators were ranked for all respondents and for respondents in each classification.

To supplement and assist in describing the outcome of these data, descriptive profiles in the form of personal interviews were constructed for 10 of the 28 community college presidents. The 10 presidents were randomly selected and asked the following: (a) did the indicators listed in the questionnaire adequately address the range of responses needed to identify "quality" programs, student services and/or outcomes at your institution?, (b) if not, what indicators should be used?, (c) does the present system for identifying "quality" at your institution work well or does it need improvement?, what improvements?, (d) is it possible to identify and report "quality" in this manner?, and (e) in your opinion, is it useful to collect and report this type of information?, useful to whom and why?. Answers to these questions were collected by both direct interview and by telephone. The results of these interviews are presented in Chapter IV and Appendix H.

In addition to the descriptive profiles, multiple between analysis of variance designs were constructed to analyze the interrelationship between the dependent indicator variables and the independent demographic information. Analysis of variance (ANOVA) tables were developed to address the responses to all indicators as compared against the independent variables. Dependent factors represented were students, faculty/staff, cost/resources, and general information indicators. Independent variables included size of school by total FTE count, location of school by market region, vocational or non-vocational designation, numbers of FTE students by program area, and related descriptive data. Results of this analysis are presented in Chapter IV with detailed tables for each indicator in Appendix G.



## CHAPTER IV

### RESULTS

#### Introduction

This study was undertaken to assess the perceived degree of usefulness the indicators of progress toward excellence have for the presidents of Florida's 28 community colleges. An additional purpose of the study was to identify what information is considered most valid to the presidents of Florida's community colleges in making quality-evaluation decisions about programs and services offered by their colleges. The study also identified similarities and differences in the usefulness ratings of the indicators for the presidents by the program area in which they most closely associate themselves; by type of institution in which they serve and by other selected personal and institutional classifications (Appendix F). In addition to reporting the survey questionnaire results, follow-up questions were addressed to 10 randomly selected presidents to supplement the study questionnaire findings.

This chapter presents the results of this study. The results are presented in six sections: a description of the study respondents, presentation of the results for all respondents, presentation of the results for each of the quality indicator groups (student, faculty/staff, costs/resources and general), presentation of the results for respondents classified by administrative area, presentation of the results for respondents by selected institutional characteristics and

presentation of the results of the questionnaire follow-up. Chapter V contains these results as well as the conclusions and recommendations of the study. The study is completed with the use of appendices.

#### Description of Respondents

The results are based upon an analysis of responses received from the 28 presidents of Florida's 28 public community/junior colleges. The response rate for the study was 100%. All of the descriptive data collected on the respondents were by self-report as indicated on the questionnaire. Responses to follow-up questions were either by the presidents themselves or by someone at their college who they felt could relay their views. The number of males to females was approximately eight to one (89% males, 11% females). Of the 28 respondents, 96% reported having the doctorate degree, 71% reported that they have been president of their community college more than five years, 89% reported having more than 12 years experience in community college education and 42% reported more than five years in education other than community college education (Table 1).

Upon receipt of the completed questionnaire, each respondent was identified as to which college they were president and then each college was identified with a number, 1 through 28 (Table 2). From these 28, 10 colleges were randomly selected to respond to a set of follow-up questions. Those selected are identified in Table 3.



TABLE 1

Frequencies for All Respondents by Sex, Degree Held, Years in Present Position, Years at Present College, Years in Community College Education and Years in Education Other than Community College by Self-Report (N=28)

VARIABLE	FREQUENCY	PERCENT of N
Sex		
Female	3	10.7
Male	25	89.3
Degree Held		
Specialist	1	3.6
Doctorate	27	96.4
Years in Present Position		
2 years or less	3	10.7
3 through 5 years	5	17.9
6 through 15 years	13	46.4
More than 15 years	7	25.0
Years at Present College		
5 years or less	9	32.2
6 through 10 years	3	10.7
11 through 15 years	6	21.4
More than 15 years	10	35.7
Years in Community College Education		
6 years or less	0	0.0
7 through 11 years	3	10.7
12 through 15 years	5	17.9
More than 15 years	20	71.4
Years in Education Other Than Community College		
Less than 1 year	7	25.0
1 through 5 years	9	32.2
6 through 10 years	4	14.3
More than 10 years	8	28.5

TABLE 2

List of Colleges with Number Designators as  
Used in the Study Questionnaire

College Number	College Name
1	Pensacola Junior College
2	Okaloosa-Walton Junior College
3	Gulf Coast Community College
4	Chipola Junior College
5	Tallahassee Community College
6	North Florida Junior College
7	Lake City Community College
8	Florida Junior College at Jax
9	Santa Fe Community College
10	St. Johns River Community College
11	Central Florida Community College
12	Daytona Beach Community College
13	Seminole Community College
14	Lake-Sumter Community College
15	Pasco-Hernando Community College
16	St. Petersburg Junior College
17	Hillsborough Community College
18	Polk Community College
19	Valencia Community College
20	Brevard Community College
21	Indian River Community College
22	South Florida Community College
23	Manatee Community College
24	Edison Community College
25	Palm Beach Junior College
26	Broward Community College
27	Miami-Dade Community College
28	Florida Keys Community College



TABLE 3

Colleges Randomly Selected to Participate in  
Study Questionnaire Follow-up

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College Number	College Name
3	Gulf Coast Community College
4	Chipola Junior College
13	Seminole Community College
14	Lake-Sumter Community College
19	Valencia Community College
20	Brevard Community College
21	Indian River Community College
23	Manatee Community College
25	Palm Beach Junior College
27	Miami-Dade Community College

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Each of the 28 respondents was additionally asked to identify which of seven administrative areas they felt best represented the program area they most closely associated themselves with when responding to the questionnaire (Table 4).

In the questionnaire, respondents were asked to indicate the amount of time they spent in program quality-evaluation activities, the extent of their involvement in program quality-evaluation decision making at their institution, their level of experience in program quality-evaluation decision making and the degree to which their position as president is associated with each of the following program areas: (1) Advanced and Professional; (2) Community Instructional Services; (3) Developmental; (4) Occupational; and (5) Student Support Services (Appendix F). To indicate these opinions, respondents were provided the following scale:

- 1 = NONE ("None of my activities or time")
- 2 = LITTLE ("Less than one-fourth but more than none  
of my activities or time")
- 3 = SOME ("One-fourth or more but less than three-fourths  
of my activities or time")
- 4 = CONSIDERABLE ("Three-fourths or more but less than  
all of my activities or time")
- 5 = ALL ("Total, 100% of my activities or time")



The frequencies of the responses to these questions have been collapsed and are reported in tables 5 and 6.

Over 60% of the respondents reported spending some to much of their time in program quality-evaluation activities. Over 80% reported that their extent of involvement in program quality-evaluation decision-making involved one-fourth or more of their activities or time. All respondents reported having from some to considerable experience in program quality-evaluation decision-making. When asked to identify to what degree their position as president is associated with the five program areas, the majority said they spent from one-fourth to three-fourths of their activities and time with the advanced and professional program area. On the other hand, most (18 of 28) said they spent little of their time or activities associated with the developmental and community instructional services areas. The remainder of their activities and time devoted to these program areas appears to be evenly divided between the occupational and student support services areas.

When asked to respond to the question, "Which program area do you feel best represents the program area with which you most closely identify yourself in rating the indicators," the vast majority (23 of 28) responded, "General"; no specific area in mind. The only other

TABLE 5

Frequencies for All Respondents by Time Spent in Program Quality-Evaluation Activities, Extent of Involvement in Program Quality-Evaluation Decision-Making and Level of Experience in Program Quality-Evaluation Decision-Making (N=28)

ACTIVITY / INVOLVEMENT / EXPERIENCE	FREQUENCY	PERCENT of N
Time Spent in Program Quality-Evaluation Activities		
- little	11	39.3
- some	14	50.0
- much	3	10.7
Extent of Involvement in Program Quality-Evaluation Decision-Making		
- little	5	17.9
- some	10	35.7
- much	13	46.4
Level of Experience in Program Quality-Evaluation Decision-Making		
- little	0	0.0
- some	6	21.4
- much	22	78.6



TABLE 6

Frequencies for All Respondents by Degree to Which their Position as President is Associated with Identified Program Areas (N=28)

PROGRAM AREA / DEGREE OF ASSOCIATION	FREQUENCY	PERCENT of N
Advanced & Professional		
- little	7	25.0
- some	15	53.6
- much	6	21.4
Developmental		
- little	18	64.3
- some	8	28.5
- much	2	7.2
Community Instructional Services		
- little	18	64.3
- some	8	28.5
- much	2	7.2
Occupational		
- little	9	32.2
- some	15	53.6
- much	4	14.2
Student Support Services		
- little	13	46.4
- some	12	42.9
- much	3	10.7

categories to be checked included 3 in the "Advanced and Professional" area and 2 in the "Other" area. Those who checked the "Other" category, specifically cited "President" and "Administrative" as their responses.

### Results for all Respondents

Mean usefulness ratings were calculated for each quality indicator for all respondents and are displayed in Appendix G. On a scale that ran from 0 to 10 (0 being of no use, 1 through 4 being of little use, 5 through 7 being of some use, and 8 through 10 being very useful), the lowest mean usefulness rating was 4.92 with the highest being 8.89. The variability in the ratings was quite wide. Individual indicator responses ran the full length of the rating scale. It was noted that for every respondent that rated a particular indicator with a zero, there was at least one other respondent that gave that same indicator a 10. Of the 40 indicators, there were 12 that were treated in this manner.

Of the 28 respondents (100% return from the 28 Florida community colleges), 25 of the 28 are male, 27 hold the doctorate degree and one holds a specialist degree. Three (11%) of the presidents have been in their present position two years or less, five (18%) have held their position from three to five years, 13 (46%) have been president at their present college from 6 to 15-years, and seven (25%) have held their position of president at their community college more than 15 years. Four of the 28 presidents (14%) have held their position



for more than 20 years. On average, the presidents have been at their present institutions 12 years, have spent on average 19 years in community college education and have on average nine years experience in education other than community college education.

When asked to identify the degree to which their position as president is associated with the following program areas: (1) Advanced and Professional; (2) Community Instructional Services; (3) Developmental; (4) Occupational; and (5) Student Support Services (see Appendix F for definitions), the presidents responded in the following manner: seven (25%) reported little, fifteen (54%) reported some and, six (21%) reported much in the advanced and professional area, eighteen (64%) reported little, eight (29%) reported some and two (7%) reported much in the community instructional services area, eighteen (64%) reported little, eight (29%) reported some and two (7%) reported much in the developmental area, nine (32%) reported little, fifteen (54%) reported some and four (14%) reported much in the occupational area, and thirteen (46%) reported little, twelve (43%) reported some and three (11%) reported much in the student support services area.

In response to the question of how much time they spend in program quality-evaluation activities, the presidents responded in the following manner: eleven (39%) reported little, fourteen (50%) reported some and three (11%) reported much.

As to the extent of involvement they have as presidents at their institutions in program quality-evaluation decision-making, they



responded with these results: five (18%) reported little, ten (36%) reported some and thirteen (46%) reported much.

When asked to reveal their level of experience in program quality-evaluation decision making, only six (21%) reported some, while the vast majority of twenty-two (79%) reported much. From this self-report, it would appear that these individuals feel they have the experience and involvement in program quality-evaluation decision-making to respond objectively and knowledgeably concerning the usefulness of the quality indicators presented to them.

According to the mean usefulness ratings given the 40 quality indicators displayed in the survey questionnaire, the top 10 indicators included five from the student category (Indicators 1, 14, 22, 24 and 26), two from the faculty/staff category (Indicators 23 and 39), one from the cost/resources category, (Indicator 9) and two from the general information category (Indicators 37 and 40). The mean usefulness ratings for these 10 ran from a high of 8.89 to 7.39 for the tenth-ranked indicator. The highest mean usefulness rated indicator was the number of students who pass their licensure examinations for each program offered. The lowest mean usefulness rated indicator for all 40 quality indicators was the general information category indicator number 34 (mean usefulness rating of 4.93) which identified the total amount of money spent to maintain accreditation. All quality indicators identified in the survey questionnaire were organized into four categories relating to students, faculty/staff, costs/resources and general information (Appendix E). These categories are described



in Appendix F with all indicators including mean usefulness rating, frequency of response, percent, standard deviation, valid cases, and minimum/maximum ranges displayed in Appendix G. The mean usefulness rating, rank, and standard deviation for each category of indicators are displayed in tables 9, 11, 13 and 15 respectively. A set of indices are also provided for each indicator category showing average response across indicators for all respondents, value, frequency, percent, mean and standard deviation (tables 10, 12, 14, and 16). Results for all indicator categories by administrative area (ANOVA) are displayed in tables 17-20. Selected institutional characteristics such as area vocational education school designation, market region and FTE (full-time equivalent) count are also presented in tables 21-23. Questionnaire follow-up responses from the 10 randomly selected presidents are displayed as a conclusion to Chapter IV. One-way analysis of variance (ANOVA) tables for all indicator groups by institutional characteristics are also displayed in Appendix L.

#### Results for Quality Indicator Groups

The 40 indicators displayed in the survey questionnaire have been organized in the following manner: Student Indicators--those indicators primarily related to student activities, reception of degrees, awards, certificates or recognition; Faculty/Staff Indicators--those indicators primarily related to faculty and staff benefits, services provided, awards or recognition; Costs/Resources Indicators--those indicators used in the questionnaire whether related to student or faculty/staff activities that have as the main objective the determination of costs

or use of resources, and General Information Indicators--those indicators used in the questionnaire that fall in a category other than students, faculty/staff, or costs/resources. Of the 40 indicators, ten (25%) were student indicators, eight (20%) were faculty/staff indicators, eight (20%) were costs/resources indicators and fourteen (35%) were general information indicators. The results of an intercorrelation matrix between the derived indicator variables (student, faculty/staff, costs/resources, and general information) and the independent demographic variables (vocational/non-vocational designator, market region, total FTE, advanced and professional FTE, vocational FTE, and developmental FTE) are displayed in Table 7.

The results displayed in Table 7 indicate that these demographic variables are not good predictors of how the institutions/presidents might respond to the indicators categorized by group. The specifics of why this may be the case will be examined in the result sections to follow. Specifically, the ranks for all quality indicators listed by mean usefulness rating for all respondents surveyed are displayed in Table 8. Although not statistically significant in terms of differences, this ranking system allows the display of all indicators from highest mean usefulness rating to lowest.



TABLE 7

Intercorrelation Matrix Between Derived Indicator Variables  
and Independent Demographic Variables

	DEMOGRAPHICS					
	VOCATIONAL/ NON- VOCATIONAL	MARKET REGION	TOTAL FTE	A&P FTE	VOC FTE	DEV FTE
INDICATORS						
Students	.1819	-.2085	-.0685	.0132	-.1399	-.1639
Faculty/Staff	.2509	-.0126	.2172	-.0501	-.0742	.1154
Costs/ Resources	.3164	-.0527	.1090	.1320	-.3273	.1088
General	.2971	-.1666	.0978	.0040	-.1529	-.0288

Valid Cases - 28      Missing Cases - 0

KEY: A&P FTE (Advanced and Professional Full-time Equivalent)  
VOC FTE (Vocational Full-time Equivalent)  
DEV FTE (Developmental Full-time Equivalent)

The highest rated (in terms of mean usefulness) student indicator reflects pass rates on licensure examinations (8.89). The highest rated faculty/staff indicator concerns the average full-time faculty salary (7.82). The highest rated costs/resources indicator reflects overall operating expenditures per FTE student (7.46) and the highest rated general information indicator addresses the percentage of area high school students who have enrolled in the college as compared to other types of institutions (7.64).

Even the very lowest rated indicator, total amount of money spent to maintain accreditation, showed a mean usefulness rating of 4.93 indicating that even as the lowest rated indicator it was considered of some use as a quality indicator in determining progress toward excellence in the Florida Community College system. The difficulty presents itself when attempting to determine why the presidents responded in the way in which they did. After the results for each indicator category have been examined and displayed, the remainder of this chapter will identify the results of looking across the indicator categories by administrative area and institutional characteristics to determine if any statistically significant differences or relationships can be identified to explain this ranking of indicators.



TABLE 8

Ranks for All Quality Indicators Listed by Mean Usefulness Rating for All Respondents Surveyed

SURVEY INDICATOR NUMBER	RANK (1-40)	USE-FULNESS RATING	STANDARD DEVIATION	QUALITY INDICATOR
14	1	8.893	1.100	The number of students who pass their licensure examinations for each program offered.
24	2	8.357	1.096	The percentage of AA degree students who continue their education in the upper-division level.
26	3	8.000	1.333	Comparison of the pass rate for licensed programs to the national averages.
1	4	7.964	1.575	The job placement rate for students receiving the AA/AS degree.
39	5	7.821	1.945	The average full-time faculty salary.
23	6	7.714	1.536	Number of full-time faculty who have participated in update training.
37	7	7.643	1.747	The percentage of area high school students who have enrolled in the college as compared to other types of institutions.
9	8	7.464	1.934	Overall operating expenditures per FTE student.
22	9	7.464	1.990	The number of preparatory students who ultimately graduate.
40	10	7.393	2.132	Faculty members and administrators who have been recognized for superior work.
35	11	7.357	1.615	The number of full-time degree seeking students who receive a degree.

TABLE 8 - continued

SURVEY INDICATOR NUMBER	RANK (1-40)	USE-FULNESS RATING	STANDARD DEVIATION	QUALITY INDICATOR
12	12	7.357	1.615	The costs associated with maintaining those programs your college considers exemplary, more successful than usual or of very high quality.
32	13	7.250	1.974	The number of business and industry partnerships established during the year.
3	14	7.214	2.672	The total impact your college has with its business and industry partnerships.
25	15	7.179	1.847	Overall FTE Faculty/FTE Student ratio.
19	16	7.071	2.493	Percent of programs in the college which can be and are accredited.
29	17	7.036	2.186	Number of full-time faculty that have more than a four-year degree.
4	18	7.000	2.091	Overall operating expenditures per FTE student as compared to the national average.
28	19	7.000	1.587	The number of students affected by those programs that your college considers as exemplary, more successful than usual or of very high quality.
8	20	6.964	1.835	The number of community service programs your college has participated in this year.
18	21	6.929	2.071	The number of presently enrolled students who have graduated from the district high school.
13	22	6.893	2.079	Library and instructional equipment expenditures as compared to the national average.



TABLE 8 - continued

SURVEY INDICATOR NUMBER	RANK (1-40)	USE-FULNESS RATING	STANDARD DEVIATION	QUALITY INDICATOR
31	23	6.893	1.988	How the college has fared with its student EA/EO goals as compared to the other Florida community colleges.
38	24	6.893	1.912	The degree of improvement made by the high achievers (those scoring in the upper quartile on the College Entry Level Test) on the CLAST test.
2	25	6.893	1.988	Amount of money spent per FTE on library and instructional equipment/materials.
33	26	6.857	2.505	The number of college preparatory students as compared to all others who ultimately graduate.
36	27	6.679	2.056	College FTE Faculty/FTE Student ratios compared to national averages.
21	28	6.679	1.786	Number of full-time faculty who hold the doctorate degree.
6	29	6.679	2.539	The degree of improvement made by the low achievers (those scoring in the lower quartile on the College Entry Level Test) on the CLAST test.
15	30	6.643	2.376	How the college has fared with its faculty and administrator EA/EO goals as compared to the other Florida community colleges.
16	31	6.643	2.022	Amount of state financial aid received by each full-time student.
27	32	6.536	1.972	The number of students who have received awards or scholarships.
10	33	6.500	2.411	Amount of state financial aid received by each full-time student compared to the national average.

TABLE 8 - continued

SURVEY INDICATOR NUMBER	RANK (1-40)	USE-FULNESS RATING	STANDARD DEVIATION	QUALITY INDICATOR
30	34	6.464	2.442	The degree of change from last year in making progress on the state plan for student EA/E0 goals.
20	35	6.286	2.052	The costs associated with your college's participation in all its community service programs for the year.
5	36	6.107	2.378	The degree of change from last year in making progress on the state plan for faculty and administrator EA/E0 goals.
17	37	6.036	2.687	The number of full-time students enrolled with the number who eventually graduate.
11	38	5.786	2.658	The average part-time faculty salary.
7	39	5.250	2.012	Number of full-time faculty who have received an additional degree after the degree held when originally hired.
34	40	4.929	3.102	Total amount of money spent to maintain accreditation.



### Results--Student Indicators

As displayed in Table 9, 10 of the 40 indicators concerned themselves primarily related to student activities, reception of degrees, awards, certificates, or recognition. The range of mean usefulness ratings ran from the high of 8.89 to a low of 6.04.

The average response across the student indicators for all respondents as shown in the Student Indicators Index (Table 10) shows a mean usefulness rating of 7.43 for all student indicators. On average, this places the student indicators in the "very useful" range for determining progress toward excellence in the Florida Community College system.

The normalized range for the student indicators is from 5.00 to 9.40 and the measures of central tendency are not as prevalent as may be desired. On whole, all student indicators were considered to be from some use to very useful.

### Results--Faculty/Staff Indicators

Of the 40 quality indicators, eight indicators identified faculty/staff issues that are used to determine progress toward excellence. Table 11 identifies those eight indicators primarily related to faculty and staff benefits, services provided, awards, or recognition. The range of mean usefulness ratings ran from 7.82 to 5.25.

TABLE 9

Ranks for Student Indicators Listed by Mean  
Usefulness Rating for All Respondents Surveyed

SURVEY INDICATOR NUMBER	OVER- ALL RANK	RANKING WITHIN CATEGORY	USE- FULNESS RATING	STD. DEV.	QUALITY INDICATOR
14	1	1	8.893	1.100	The number of students who pass their licensure examinations for each program offered.
24	2	2	8.357	1.096	The percentage of AA degree students who continue their education in the upper-division level.
26	3	3	8.000	1.333	Comparison of the pass rate for licensed programs to the national level.
1	4	4	7.964	1.575	The job placement rate for students receiving the AA/AS degree.
22	9	5	7.464	1.990	The number of preparatory students who ultimately graduate.
35	11	6	7.357	1.615	The number of full-time degree seeking students who receive a degree.
31	23	7	6.893	1.988	How the college has fared with its student EA/E0 goals as compared to the other Florida community colleges.
33	26	8	6.857	2.505	The number of college preparatory students as compared to all others who ultimately graduate.
30	34	9	6.464	2.442	The degree of change from last year in making progress on the state plan for student EA/E0 goals.
17	37	10	6.036	2.687	The number of full-time students enrolled with the number who eventually graduate.



TABLE 10

STUDENT INDICATORS INDEX - Average response across student indicators for all respondents

VALUE	FREQUENCY	PERCENT	CUM PERCENT
5.00	1	3.6	3.6
5.00	1	3.6	7.1
5.90	1	3.6	10.7
6.20	1	3.6	14.3
6.30	1	3.6	17.9
6.40	2	7.1	25.0
6.60	1	3.6	28.6
6.80	1	3.6	32.1
7.10	2	7.1	39.3
7.30	1	3.6	42.9
7.40	2	7.1	50.0
7.70	2	7.1	57.1
7.80	2	7.1	64.3
8.00	1	3.6	67.9
8.10	1	3.6	71.4
8.20	2	7.1	78.6
8.30	2	7.1	85.7
8.70	1	3.6	89.3
9.20	2	7.1	96.4
9.40	1	3.6	100.0
TOTAL	28	100.0	

Mean - 7.429      Standard Deviation - 1.120      Median - 7.550

Valid Cases - 28      Missing Cases - 0

TABLE 11

Ranks for Faculty/Staff Indicators Listed by Mean Usefulness Rating for All Respondents Surveyed

SURVEY INDICATOR NUMBER	OVER-ALL RANK	RANKING WITHIN CATEGORY	USE-FULNESS RATING	STD. DEV.	QUALITY INDICATOR
39	5	1	7.821	1.945	The average full-time faculty salary.
23	6	2	7.714	1.536	Number of full-time faculty who have participated in update training.
29	17	3	7.036	2.186	Number of full-time faculty that have more than a four-year degree.
21	28	4	6.679	1.786	Number of full-time faculty who hold the doctorate degree.
15	30	5	6.643	2.376	How the college has fared with its faculty and administrator EA/EO goals as compared to the other Florida community colleges.
5	36	6	6.107	2.378	The degree of change from last year in making progress on the state plan for faculty and administrator EA/EO goals.
11	38	7	5.786	2.658	The average part-time faculty salary.
7	39	8	5.250	2.012	Number of full-time faculty who have received an additional degree after the degree held when originally hired.

The average response across the faculty/staff indicators for all respondents as shown in the Faculty/Staff Index (Table 12), shows a mean usefulness rating of 6.63 for all faculty/staff indicators. On average, this places the faculty/staff indicators in the "of some use" range for determining progress toward excellence in the Florida Community College system.



TABLE 12

FACULTY/STAFF INDICATORS INDEX - Average response across  
faculty/staff indicators for all respondents

VALUE	FREQUENCY	PERCENT	CUM PERCENT
4.00	1	3.6	3.6
4.50	1	3.6	7.1
4.63	1	3.6	10.7
4.75	1	3.6	14.3
4.88	1	3.6	17.9
5.25	1	3.6	21.4
5.88	2	7.1	28.6
6.80	1	3.6	32.1
6.13	1	3.6	35.7
6.25	1	3.6	39.3
6.50	1	3.6	42.9
6.75	4	14.3	57.1
6.88	1	3.6	60.7
7.25	2	7.1	67.9
7.38	1	3.6	71.4
7.75	2	7.1	78.6
7.88	1	3.6	82.1
8.00	2	7.1	89.3
8.38	1	3.6	92.9
8.75	2	7.1	100.0
TOTAL	28	100.0	

Mean - 6.629      Standard Deviation - 1.323      Median - 6.750

Valid Cases - 28      Missing Cases - 0

The normalized range for the faculty/staff indicators is from 4.00 to 8.75 with measures of central tendency scattered across the entire range. On whole, the faculty/staff indicators ranged from some use to very useful.

#### Results--Costs/Resources Indicators

Eight of the 40 quality indicators were categorized as costs/resources indicators. The costs/resources indicators are those indicators used in the questionnaire whether related to student or faculty/staff activities that have as the main objective the determination of costs or use of resources. The range of mean usefulness ratings for this indicator category ran from 7.46 to 6.50 (Table 13). Of all the indicator categories, the costs/resources indicators showed the least amount of variability between highest and lowest mean usefulness rating.

The average response across the costs/resources indicators for all respondents as shown in the Costs/Resources Index (Table 14) shows a mean usefulness rating of 6.97 for all costs/resources indicators. On average, the costs/resources indicators were identified as being "of some use" for determining progress toward excellence in the Florida Community College system.



TABLE 13

Ranks for Costs/Resources Indicators Listed by Mean  
Usefulness Rating for All Respondents Surveyed

SURVEY INDICATOR NUMBER	OVER- ALL RANK	RANKING WITHIN CATEGORY	USE- FULNESS RATING	STD. DEV.	QUALITY INDICATOR
9	8	1	7.464	1.934	Overall operating expenditures per FTE student.
12	12	2	7.357	1.615	The costs associated with maintaining those programs your college considers exemplary, more successful than usual or of very high quality.
4	18	3	7.000	2.091	Overall operating expenditures per FTE student as compared to the national average.
28	19	4	7.000	1.587	The number of students affected by those programs that your college considers as exemplary, more successful than usual or of very high quality.
13	22	5	6.893	2.079	Library and instructional equipment expenditures as compared to the national average.
2	25	6	6.893	1.988	Amount of money spent per FTE on library and instructional equipment/materials.
16	31	7	6.643	2.022	Amount of state financial aid received by each full-time student.
10	33	8	6.500	2.411	Amount of state financial aid received by each full-time student compared to the national average.

TABLE 14

COSTS/RESOURCES INDEX - Average response across costs/resources indicators for all respondents

VALUE	FREQUENCY	PERCENT	CUM PERCENT
4.00	1	3.6	3.6
4.63	1	3.6	7.1
5.00	1	3.6	10.7
5.25	1	3.6	14.3
5.50	2	7.1	21.4
5.63	1	3.6	25.0
6.25	1	3.6	28.6
6.63	3	10.7	39.3
6.75	1	3.6	42.9
7.00	1	3.6	46.4
7.13	1	3.6	50.0
7.25	3	10.7	60.7
7.38	1	3.6	64.3
7.75	1	3.6	67.9
7.88	3	10.7	78.6
8.13	1	3.6	82.1
8.50	2	7.1	89.3
8.63	1	3.6	92.9
9.13	1	3.6	96.4
9.25	1	3.6	100.0
TOTAL	28	100.0	

Mean - 6.969      Standard Deviation - 1.365      Median - 7.188

Valid Cases - 28      Missing Cases - 0



The normalized range for the costs/resources indicators is from 4.00 to 9.25 with means of central tendency slightly more prevalent than the previous two categories. Averaged across all indicators for the category, the costs/resources indicators ranged from some use to very useful.

#### Results--General Information Indicators

The remaining 14 indicators to be reviewed are in the category identified as the general information indicators. These indicators are those used in the questionnaire that fall in a category other than students, faculty/staff, or costs/resources (Table 15). The range of mean usefulness ratings for this indicator category ran from 7.64 to 4.93.

The General Indicators Index (Table 16) shows an average response across the general information indicators for all respondents reflecting a mean usefulness rating of 6.83. Collectively, the general information indicators show themselves to be "of some use" for determining progress toward excellence in the Florida Community College system.

The normalized range for the general information indicators is from 4.14 to 9.43 with means of central tendency again not as prevalent as may be desired. On whole, all general information indicators were considered to be from some use to very useful.

TABLE 15

Ranks for General Indicators Listed by Mean  
Usefulness Rating for All Respondents Surveyed

SURVEY INDICATOR NUMBER	OVER- ALL RANK	RANKING WITHIN CATEGORY	USE- FULNESS RATING	STD. DEV.	QUALITY INDICATOR
37	7	1	7.643	1.747	The percentage of area high school students who have enrolled in the college as compared to other types of institutions.
40	10	2	7.393	2.132	Faculty members and administrators who have been recognized for superior work.
32	13	3	7.250	1.974	The number of business and industry partnerships established during the year.
3	14	4	7.214	2.672	The total impact your college has with its business and industry partnerships.
25	15	5	7.179	1.847	Overall FTE Faculty/FTE Student ratio.
19	16	6	7.071	2.493	Percent of programs in the college which can be and are accredited.
8	20	7	6.964	1.835	The number of community service programs your college has participated in this year.
18	21	8	6.929	2.071	The number of presently enrolled students who have graduated from the district high school.
38	24	9	6.893	1.912	The degree of movement made by the high achievers (those scoring in the upper quartile on the College Entry Level Test) on the CLAST test.



TABLE 15 - Continued

SURVEY INDICATOR NUMBER	OVER- ALL RANK	RANKING WITHIN CATEGORY	USE- FULNESS RATING	STD. DEV.	QUALITY INDICATOR
36	27	10	6.679	2.056	College FTE Faculty/FTE Student ratios compared to national average.
6	29	11	6.679	2.539	The degree of movement made by the low achievers (those scoring in the lower quartile on the College Entry Level Test) on the CLAST test.
27	32	12	6.536	1.972	The number of students who have received awards or scholarships.
20	35	13	6.286	2.052	The costs associated with your college's participation in all its community service programs for the year.
34	40	14	4.929	3.102	Total amount of money spent to maintain accreditation.

TABLE 16

GENERAL INDICATORS INDEX - Average response across  
general indicators for all respondents

VALUE	FREQUENCY	PERCENT	CUM PERCENT
4.14	1	3.6	3.6
4.71	1	3.6	7.1
4.79	1	3.6	10.7
5.00	1	3.6	14.3
5.29	1	3.6	17.9
5.36	1	3.6	21.4
6.07	1	3.6	25.0
6.29	2	7.1	32.1
6.43	1	3.6	35.7
6.50	1	3.6	39.3
6.57	1	3.6	42.9
6.86	2	7.1	50.0
7.07	1	3.6	53.6
7.14	1	3.6	57.1
7.21	1	3.6	60.7
7.50	3	10.7	71.4
7.64	2	7.1	78.6
7.71	1	3.6	82.1
8.07	1	3.6	85.7
8.50	1	3.6	89.3
8.57	1	3.6	92.9
8.64	1	3.6	96.4
9.43	1	3.6	100.0
TOTAL	28	100.0	

Mean - 6.832      Standard Deviation - 1.312      Median - 6.964

Valid Cases - 28      Missing Cases - 0



### Results--Administrative Areas

In an attempt to determine differences and similarities between respondents, one-way analysis of variance calculations were performed on each of the indicators for each of the demographic variables. This was done in an effort to explain the variability in the indicators. F-test probabilities were examined at the .05 level to determine significant differences. In addition to the F-tests, group counts, means and standard deviations are presented to further attempt to explain any found differences. As can be seen from the results shown in Table 17 for the student indicators, Table 18 for the faculty/staff indicators, Table 19 for the costs/resources indicators, and Table 20 for the general indicators, there were no significant differences found for any indicators across any of the measured administrative areas. It is possible that the disproportional N in each identified administrative level (N=3 for Advanced and Professional, N=23 for General, and N=2 for Other) has contributed to this non-significance.

All respondents were additionally given the opportunity to identify the program area they felt best represented the program area they most closely identified themselves with when rating the indicators. Those who answered general had no specific administrative area in mind. Twenty-three respondents choose this response. Three identified the advanced and professional area and two cited the "other" designate. Of those two, one identified "administrative" and the other cited "president." From the responses received, it has been shown that administrative area as presented in this study is not a good predictor

TABLE 17  
Student Indicators by Administrative Area ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	2.7090	1.3545	1.0871	.3526
Within Groups	25	31.1482	1.2459		
Total	27	33.8571			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Advanced & Professional	3	6.5333	1.4572
General	23	7.5435	1.1008
Other	2	7.4500	.4950



TABLE 18  
Faculty/Staff Indicators by Administrative Area ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	2.7998	1.3999	.7876	.4659
Within Groups	25	44.4340	1.7774		
Total	27	47.2338			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Advanced & Professional	3	7.2083	1.0483
General	23	6.4837	1.3279
Other	2	7.4375	1.8562

TABLE 19  
 Cost/Resources Indicators by Administrative Area ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	3.6355	1.8177	.9738	.3915
Within Groups	25	46.6653	1.8666		
Total	27	50.3008			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Advanced & Professional	3	7.0417	1.6971
General	23	6.8478	1.3298
Other	2	8.2500	1.4142



TABLE 20  
General Indicators by Administrative Area ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	2.5397	1.2699	.7231	.4951
Within Groups	25	43.9012	1.7560		
Total	27	46.4410			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Advanced & Professional	3	6.0476	1.2583
General	23	6.8851	1.3191
Other	2	7.3929	1.5657

of how the presidents would respond in identifying the usefulness of the quality indicators.

### Results--Selected Institutional Characteristics

An additional area identified in this study as a possible predictor of how the presidents might rate the usefulness of the quality indicators was by selected institutional characteristics.

Those institutional characteristics chosen for this study included area vocational education school designate, market region and FTE (full-time equivalent) counts.

One area of interest was to determine if those presidents of community colleges designated as area vocational educational schools responded to the quality indicators in such a way that this designate might help explain their responses. Table 21 identifies those community colleges by vocational and non-vocational listings.

Of the 28 community colleges, fourteen (50%) have been designated by the Florida Department of Education as area vocational education schools. Although all Florida community colleges offer vocational courses and have vocational FTE (Full-time equivalent) student counts, the designate of area vocational education school is in addition to being a regular community college. For this study, this particular designate has been identified as vocational and non-vocational respectively.

A second area of interest for this study was how the market regions in which the community colleges are located might affect or help predict how the community college presidents would respond to the



TABLE 21

List of Colleges Designated as  
Vocational and Non-Vocational

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Vocational	Brevard Community College Central Florida Community College Chipola Junior College Daytona Beach Community College Florida Junior College at Jax Florida Keys Community College Indian River Community College Lake City Community College North Florida Community College Okaloosa-Walton Junior College Pasco-Hernando Community College Santa Fe Community College Seminole Community College South Florida Community College
Non-Vocational	Broward Community College Edison Community College Gulf Coast Community College Hillsborough Community College Lake-Sumter Community College Manatee Community College Miami-Dade Community College Palm Beach Junior College Pensacola Junior College Polk Community College St. Johns River Community College St. Petersburg Junior College Tallahassee Community College Valencia Community College

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NOTE: Although as used in this study, all community colleges have been designated as vocational or non-vocational, in reality all 28 community colleges offer vocational courses and have vocational FTE counts. The colleges that have been designated as vocational are in fact those colleges that have been designated as Area Vocational Education Schools as part of the Florida Community College System. The colleges listed here as non-vocational have not been designated as Area Vocational Education Schools.

quality indicators usefulness rating process. Table 22 identifies the five market regions including Northwest, Northeast, Central, Southwest, and Southeast. These market regions cover all counties within Florida. The Northwest region runs from Taylor County west. The Northeast region includes all community colleges from Marion County north. The Central market region runs from Flagler County to Sumter County south to Osceola County. Southwest includes from Citrus County to Highlands County south to Collier County. The fifth market region, Southeast, includes those community colleges located from Indian River County south. These market regions have been identified by the Bureau of Economic and Business Research at the University of Florida and have divided the State of Florida into five Market regions based primarily on location.

The third area of interest in this study is how the institutional characteristics of FTE (Full-time equivalent) student counts for each of the community colleges might be predictors of how the presidents responded to the quality indicators on the survey questionnaire. The information used for this area was obtained from the Florida Department of Education and are the FTE counts for the total school population, percent FTE served classified in the Advanced and Professional area, percent FTE served classified in the Occupational (identified in this study as vocational) area, and percent FTE served classified in the



TABLE 22

## List of Colleges by Market Region

MARKET REGION	COLLEGE
Northwest - from Taylor County west	Pensacola Junior College Okaloosa-Walton Junior College Gulf Coast Community College Chipola Junior College Tallahassee Community College
Northeast - from Marion County north	North Florida Junior College Lake City Community College Florida Junior College at Jax Santa Fe Community College St. Johns River Community College Central Florida Community College
Central - from Flagler County to Sumter County south to Osceola County	Daytona Beach Community College Seminole Community College Lake-Sumter Community College Valencia Community College Brevard Community College
Southwest - from Citrus County to Highlands County south to Collier County	Pasco-Hernando Community College St. Petersburg Junior College Hillsborough Community College Polk Community College South Florida Community College Manatee Community College Edison Community College
Southeast - from Indian River County south	Indian River Community College Palm Beach Junior College Broward Community College Miami-Dade Community College Florida Keys Community College

Developmental area. Table 23 shows the numerical breakdown and percentage by college. Although the Community Instructional Services area was originally identified as an additional area of consideration, this area was dropped due to a change in reporting methods that showed all 28 community colleges reflecting 0% in this category for the 1984-85 school year.

In an attempt to again determine differences and similarities between respondents, one-way analysis of variance calculations were performed on each of the indicators for each of the institutional variables related to vocational vs non-vocational designate, market region and FTE student count. In an effort to explain the variability in the indicators, F-test probabilities were examined at the .05 level to determine significant differences. The results contained in Appendix L (tables 24 through 47) confirm that for each indicator category; students, faculty/staff, costs/resources and general information, examined across each institutional characteristic; vocational category, market region, total FTE count, advanced and professional FTE count, vocational FTE count and developmental FTE count, there were no significant differences found for any indicators across any of the measured institutional areas. In effect, like the administration areas previously reported, the institutional areas examined in this study were not good predictors of how the presidents would respond in rating the usefulness of the quality indicators presented in the study questionnaire.



TABLE 23

Total FTE Enrollment by College and Program Area  
Showing Percent for Each (1984-85)

COLLEGE	FTE TOTAL	=	A&P FTE	%	+	VOC FTE	%	+	DEV FTE	%
Brevard	6,996.3		3,155.2	45		2,877.9	41		963.2	14
Broward	9,534.6		6,091.8	64		3,333.7	35		109.1	1
Central Florida	1,979.2		940.8	48		1,016.1	51		22.3	1
Chipola	963.7		539.7	56		384.0	40		40.0	4
Daytona Beach	6,188.1		1,893.3	31		2,607.5	42		1,687.3	27
Edison	2,678.6		1,599.9	60		961.4	36		117.3	4
Fla JC At Jax	11,682.6		3,686.8	32		4,330.1	37		3,665.7	31
Florida Keys	753.0		350.3	46		372.8	50		29.9	4
Gulf Coast	2,091.3		1,264.8	60		788.7	38		37.8	2
Hillsborough	5,696.4		3,404.3	60		1,927.4	34		364.7	6
Indian River	4,629.0		1,514.8	33		2,254.2	49		860.0	18
Lake City	1,578.5		560.4	35		956.2	61		61.9	4
Lake-Sumter	746.6		449.5	60		274.4	37		22.7	3
Manatee	3,020.0		1,741.9	58		1,032.0	34		246.1	8
Miami-Dade	23,682.0		14,411.0	61		7,159.8	30		2,112.2	9
North Florida	641.9		275.7	43		248.6	39		117.6	18
Ocala-Walton	2,172.3		1,099.6	51		671.2	31		401.5	18
Palm Beach	5,532.2		3,231.7	58		1,993.0	36		307.5	6
Pasco-Hernando	1,495.0		613.2	41		841.1	56		40.7	3
Pensacola	7,049.0		2,608.7	37		2,446.4	35		1,993.9	28
Polk	2,366.2		1,330.0	56		976.6	41		59.6	3
St. Johns River	695.6		424.2	61		239.6	34		31.8	5
St. Petersburg	8,427.5		4,829.7	57		3,184.2	38		413.6	5
Santa Fe	4,903.8		2,781.0	57		1,803.0	37		319.8	6
Seminole	4,917.0		1,492.4	30		1,560.3	32		1,864.3	38
South Florida	1,165.5		235.3	20		625.0	54		305.2	26
Tallahassee	2,560.2		1,848.4	72		618.1	24		93.7	4
Valencia	5,891.7		3,721.2	63		2,056.7	35		113.8	2

NOTE: All 28 Colleges show 0% FTE in the Community Instructional Services Area. The results shown in the Vocational Area are used in place of the Occupational Area identified on the survey questionnaire.

KEY: A&P FTE (Advanced and Professional Full-time Equivalent)  
VOC FTE (Vocational Full-time Equivalent)  
DEV FTE (Developmental Full-time Equivalent)



### Results for Questionnaire Follow-up

This section of Chapter IV will examine the results of the survey questionnaire follow-up and will be divided into three areas. The first will present the results of the survey follow-up responses for the ten randomly selected presidents (Refer to table 3 for complete listing). The second will present the additional indicators with ratings identified by all community colleges, and the third will present the additional survey responses offered by the respondents.

As a way to identify additional information concerning the quality indicators/program quality-evaluation decision-making process, 10 of the 28 community college presidents were randomly selected to respond to the following five questions: (1) Did the indicators listed in the questionnaire adequately address the range of responses needed to identify "quality" programs, student services and/or outcomes at your institution?, (2) If not, what indicators should be used?, (3) Does the present system for identifying "quality" at your institution work well or does it need improvement? What improvements?, (4) Is it possible to identify and report "quality" in this manner?, and (5) In your opinion, is it useful to collect and report this type of information? Useful to whom and why? Specific responses to these questions are listed in Appendix H. Of the 10 who were asked to respond, 8 of 10 felt that the indicators as listed did for the most part address the range necessary to identify "quality" at their institution. The two that objected felt strongly that the entire process of identifying "quality" in this manner is suspect. When asked if additional indicators were needed to



supplement those provided, 50% said yes. In response to whether or not the system presently in place at their institution for collecting this type of information worked well, 50% said no. Those 14 cited limited resources, incomplete data and questionable directions as problem-areas in accomplishing this task. Where asked if this type of data collection is useful to the community college, all agreed that it was. Most cited the fact that it was one way of requiring the institution to look at its programs and progress from year to year. However, where asked to respond to whether or not it is possible to identify "quality" in this manner, seven said it was, three felt it was only particularly possible to identify "quality" in this manner and all identified concerns that this system in and of itself could not be considered the only means to identify "quality" programs or services at the community colleges. In particular, some respondents questioned whether indicators of this type could identify "quality" at all. Concern was expressed that the definition of "quality" is a subjective one, and any list of indicators that can be devised could be challenged. The predominate theme that occurred over and over in the follow-up responses was that the system of identifying "quality" and progress toward excellence for the community colleges using a list of quality indicators was one of immense data collection and reporting with only limited return to the colleges. Being required to address these issues on a yearly basis was considered a positive from the standpoint of keeping the community colleges aware of their efforts, but was also



considered a negative when identifying the degree of return for amount of effort invested.

A second area of information collected included additional indicators the presidents felt should be added to the list of quality indicators supplied in the survey questionnaire. Appendix I lists these additional indicators with ratings by community colleges. In all, nine community colleges supplied 32 additional indicators that had an average rating of 8.66. No two additional indicators were exactly the same, but some patterns emerged. Of the 32, 14 could be classified in the student category, two in the faculty/staff, two in the costs/resources and 14 in the general information category. The additional indicators included those related to CLAST scores, resources distributed between instruction and non-instruction costs, number of new programs being developed and external recognition of programs or activities. Other additional indicators were concerned with the perceived satisfaction of graduates/completers, average salary of alumni, endowment funds received and invested, number or percentage of students completing education goals and number of students completing objectives of less than the Associate degree. Probably two of the more unique additional indicators supplied by the presidents were quality of audits and number of illiterates taught to read. As can be seen from the complete listing contained in Appendix I, the range of indicators that have been offered to supplement the existing list in the survey questionnaire cross all categories and pertain to nearly all aspects of the community college mission. From this inquiry alone, it is possible



to determine that the scope and range of "quality" indicators that could be used as part of the process of identifying progress toward excellence for the Florida community college system can be cumbersome. This study has identified in excess of 70 "indicators" that the presidents of Florida community colleges feel are to some degree "useful" in identifying "quality" at their institution. A separate task not attempted by this study could be to develop a method to consolidate and/or compress this list to a more manageable dozen or so indicators.

The third and last area to be examined in this section is the additional survey responses offered by the respondents. Again, nine community college presidents offered suggestions, comments, and criticisms that pertained to the survey instrument, the quality indicators process and related topics of data collection, community college involvement in quality assessment and wording of specific quality indicators. Appendix K lists specifically these additional survey responses. Comments ranged from the suggestion that the Management Information Task Force (MISATFOR) be consulted to determine the availability and comparability of requested data, that value-added benefits to students be addressed in any system that purports to identify "quality," concern about the ambiguity of words like "impact" when used in a measurement, to the fact that the types of indicators of quality represented in the questionnaire, and indicators of progress toward excellence were not judged to be very useful or meaningful. One institution/president commented that single numerical indicators of

excellence may be misinterpreted in comparing excellence among institutions. Heterogeneous populations in growing metropolitan areas could create an entirely different student population than in areas with a more homogeneous, stable population. The concern was that these indicators may not reflect changing conditions within individual institutions.

The responses identified a concern for the validity of the quality indicators process and suggested that refinement and improvements are needed to the current system to better determine progress toward excellence for Florida's community college system.



CHAPTER V  
SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary

Study Rationale and Design

At present, a disconnect exists in the system for developing the indicators used for determining progress toward excellence without first determining the perceptions of those individuals whose position and authority can positively contribute to the acceptance and advancement of the use of these indicators. Because of this disconnect, this study was undertaken in order to better determine the indicators that reflect this degree of movement being made toward the goal of achieving educational excellence (as determined by the Florida State Legislature) and to identify the degree of usefulness each of these indicators have for the presidents of each of Florida's 28 community colleges.

Based on a project design adapted by the Florida Community/Junior College Inter-institutional Research Council, the purpose of this study was to determine the perceived degree of usefulness the indicators of progress toward excellence have for the presidents of Florida's 28 community colleges. This study identified this degree of perceived usefulness by using a survey instrument. This survey requested that the presidents rate, on a 10-point scale, statements that reflect the information required of each indicator as they relate to progress toward excellence.

An additional purpose of the study was to identify similarities and/or differences in the perceived mean usefulness ratings of the indicators toward quality for the presidents according to various classifications including:

1. The program or service area with which the responding presidents most closely identified themselves.
2. The administrative areas within which the responding presidents have had prior experience.
3. Personal characteristics of respondents including sex, degree level, years in present position, years at present college, years in community college education, and years in education other than community college education.
4. General characteristics of the institution within which the presidents were employed including the market region, area vocational education school designate, total size of the institution in terms of the FTE served, the percentage of total college FTE served in the advanced and professional program area, the percentage of total college FTE served in the occupational (vocational) program area, and the percentage of total college FTE served in the developmental area.
5. Opinions of respondents relative to the amount of time spent in, extent of involvement in, and level of experience in program quality-evaluation decision making at their institution. Respondents were also asked to give their



perception of the degree to which their position allows participation in these areas.

The study also encouraged the presidents to comment on the quality indicators process, as well as, add and rate any indicators they felt should be listed. Additionally, the study identified 10 of the 28 presidents for follow-up and recorded their responses to the following five questions:

- (1) Did the indicators listed in the questionnaire adequately address the range of responses needed to identify "quality" programs, student services, and/or outcomes at your institution?
- (2) If not, what indicators should be used?
- (3) Does the present system for identifying "quality" at your institution work well or does it need improvement? What improvements?
- (4) Is it possible to identify and report "quality" in this manner?
- (5) In your opinion, is it useful to collect and report this type of information? Useful to whom and why?

### Data Analysis

The data in the study were analyzed with the assistance of the SPSSPC+ (Statistical Package for the Social Sciences) computer system for data analysis. The mean, standard deviation, variance, range and measures of median and mode were calculated for each indicator for all respondents and for each classification of respondents described in the

study. In addition to descriptive profiles developed from the demographic and follow-up response information collected, multiple one-way between analysis of variance designs were constructed to analyze the interrelationship between the dependent indicator variables and the independent demographic information. Dependent factors represented were students, faculty/staff, costs/resources, and general information. Independent variables included size of school by total FTE count, type of school market region, vocational or non-vocational designation, numbers of FTE students by program area, and related descriptive data.

#### Results--All Respondents

Mean usefulness ratings were calculated for each quality indicator for all respondents. On a scale that ran from 0 to 10 (0 being of no use, 1 through 4 being of little use, 5 through 7 being of some use, and 8 through 10 being very useful), the lowest mean usefulness rating was 4.92 with the highest being 8.89. The variability in the ratings was quite wide with individual indicator responses running the full length of the rating scale. It was noted that for every respondent that rated a particular indicator with a zero, there was at least one other respondent that gave that same indicator a 10. Of the 40 indicators, there were 12 that were treated in this manner.

Concerning the respondents, on average, the presidents have been at their present institutions 12 years, have spent on average 19 years in community college education and have on average nine years



experience in education other than community college education. Twenty-five of the 28 are male, 27 hold the doctorate degree and 23 responded to the study questionnaire by answering the general designator when asked which administrative area they most closely identified with. Over 60% of the presidents responded that they spent from some to much of their time in program quality-evaluation activities. More than 82% said their extent of involvement in program quality-evaluation decision-making was from some to much. In terms of level of experience, all the presidents responded from some to much. As to the extent of involvement in program quality-evaluation decision-making, 5 reported little, 10 reported some and 13 reported much. When asked to identify the degree to which their position as president is associated with the identified program areas, 7 reported little, 15 some and 6 much in the advanced and professional area, with 18 reporting little, 8 some, and 2 much in the community instructional services area. For the developmental area, 18 reported little, 8 reported some, and 2 reported much. In the occupational area, 9 of the presidents reported little, 15 some, and 4 much. In the last program area identified, 13 reported little, 12 reported some, and 3 reported much for the student support services area.

Mean usefulness ratings for all 40 indicators ranged from a high of 8.89 to a low of 4.92. Presidents provided an additional 32 indicators with a average usefulness rating of 8.66.

### Results--Quality Indicator Groups

Of the 40 indicators identified in the study questionnaire, 10 were student indicators, 8 were faculty/staff indicators, 8 were in the costs/resources category, and 14 were general information indicators. The highest mean usefulness rated student indicator reflected pass rates on licensure examinations (8.89). The highest mean usefulness rated faculty/staff indicator identified average full-time faculty salary (7.82). In the costs/resources category, the highest mean usefulness rated indicator reflected overall operating expenditures per FTE student (7.46). In the final category, general information, the highest mean usefulness rated indicator addressed the percentage of area high school students who have enrolled in the college as compared to other types of institutions (7.64). In the student indicator category, the range of mean usefulness ratings ran from a high of 8.89 to a low of 6.04. The faculty/staff indicators showed a range of mean usefulness ratings from 7.82 to 5.25. The costs/resources and general information indicators showed a range of mean usefulness ratings from 7.46 to 6.50 and 7.64 to 4.93 respectively. In terms of average responses across each indicator category for all respondents, student indicators showed 7.43, faculty/staff 6.63, costs/resources 6.97 and general information reflected 6.83. Even the very lowest rated indicator, total amount of money spent to maintain accreditation, showed a mean usefulness rating of 4.93 indicating that it was of some use as a quality indicator in determining progress toward excellence in the Florida Community College system.



### Results--Administrative Areas

In order to determine differences and similarities between respondents, one-way analysis of variance calculations were performed on each of the indicators for each of the demographic variables. F-test probabilities were examined at the .05 level to determine significant differences. In addition to the F-tests, group counts, means, and standard deviations were determined to further explain any found differences. The results showed no significant differences for any indicators across any of the measured administrative areas designated as advanced and professional, general or other.

### Results--Selected Institutional Characteristics

The institutional characteristics chosen for analysis included area vocational education school designate, market region and FTE (full-time equivalent) counts.

In an attempt to again determine differences and similarities between respondents, one-way analysis of variance calculations were performed on each of the indicators for each of the institutional variables related to vocational vs non-vocational designate, market region in which the institution is located, and FTE student count. F-test probabilities were examined at the .05 level to determine significant differences. Results confirmed that for each indicator category (student, faculty/staff, costs/resources and general information), examined across each institutional characteristic, there were no significant differences found for any indicators across any of the measured institutional areas. To conclude, the results for both

the administrative areas and institutional characteristics have shown that no significant differences at the .05 level exist across any indicators and as such imply that these variables as identified in this study are not good predictors of how Florida's community college presidents will respond in rating the usefulness of the quality indicators presented in the study questionnaire.

#### Results--Questionnaire Follow-up

This area of study was divided into three parts. The responses of the 10 randomly selected presidents to five follow-up questions comprised the first, the second included the additional indicators with ratings supplied by the presidents and the third involved all additional comments offered by the presidents as part of the survey questionnaire.

Of the 10 presidents who were randomly selected to respond to the five follow-up questions, eight felt that the indicators as listed did for the most part address the range necessary to identify "quality" at their institution. The two that objected felt strongly that the entire process of identifying "quality" by using a list of indicators was suspect. Fifty percent of the presidents felt additional indicators are needed to supplement the list of indicators included in the study questionnaire. Fifty percent of the presidents also felt the present system for collecting the required information for the indicators did not work well at their institutions. All 28 presidents agreed that collecting the data is useful to their institutions, but seven felt that it was only partially possible to identify "quality" in this



manner. All respondents expressed concern that this system (responding to specific indicators) in and of itself could not be considered the only means for identifying "quality" programs or services at the community colleges. In summary, the majority of the presidents felt that the present system for reporting "quality" by use of the indicators is helpful to the college in that it requires a yearly review of programs and progress but, they questioned the return received compared to the effort required to collect and report the data.

In terms of recommendations for additional indicators, nine presidents identified 32 additional indicators with an average usefulness rating of 8.66. Of the 32, 14 were in the student category, 2 in the faculty/staff, 2 in the costs/resources and 14 in the general information category.

The third area examined in this section included the additional survey responses offered by the respondents. Nine presidents offered suggestions, comments, and criticisms pertaining to the survey instrument, the quality indicators process and related topics of data collection, community college involvement in quality assessment, and wording of specific quality indicators. Collectively, the responses identified a concern for the validity of the quality indicators process and suggested that refinements and improvements are needed to the current system to better determine progress toward excellence for Florida's community colleges.

### Conclusions

The following conclusions have been drawn from the study results reported in Chapter IV and summarized in this chapter:

1. Numerous "quality" indicators were identified as required for assessment of progress toward excellence for Florida's community college system.
2. Indicators pertaining to students, faculty/staff, costs/resources, and general information were identified as useful for assessing quality at the community college indicating the complex nature of information required for identifying progress toward excellence.
3. The majority of Florida's community college presidents agree that a reporting system like the quality indicators process encourages the college staff to review and assess yearly progress of programs and student services.
4. Not all of Florida's community college presidents are in agreement that the present system for identifying progress toward excellence using quality indicators is cost and resource efficient for the quality and usefulness of information returned.
5. According to the results of this study, the administrative areas identified were shown to be not good predictors of how Florida's community college presidents rate the usefulness of the identified quality indicators.



6. According to the results of this study, the market regions in which the community colleges are located were shown to be not good predictors of how Florida's community college presidents rate the usefulness of the identified quality indicators.
7. According to the results of this study, the total FTE (full-time equivalent) student counts for the community colleges were shown to be not good predictors of how Florida's community college presidents rate the usefulness of the identified quality indicators.
8. According to the results of this study, the FTE (full-time equivalent) student count for the advanced and professional area for the community colleges were shown to be not good predictors of how Florida's community college presidents rate the usefulness of the identified quality indicators.
9. According to the results of this study, the FTE (full-time equivalent) student count for the occupational (vocational) area for the community colleges were shown to be not good predictors of how Florida's community college presidents rate the usefulness of the identified quality indicators.
10. According to the results of this study, the FTE (full-time equivalent) student count for the developmental area for the community colleges were shown to be not good predictors of how Florida's community college presidents rate the usefulness of the identified quality indicators.

11. According to the results of this study, the area vocational education school designate (vocational vs non-vocational) for the community colleges was shown to be not good as a predictor of how Florida's community college presidents rate the usefulness of the identified quality indicators.
12. The degree of similarity in rank-order (by mean usefulness-ratings as determined for all respondents) of all quality indicators as rated by the presidents was relatively high, suggesting that all indicators as listed in the study are of some value in determining progress toward excellence.
13. The presidents of Florida's community colleges are knowledgeable of and are participative in program quality-evaluation decision-making at their respective community colleges.
14. The results of this study indicate that the techniques of using quality indicators as a way to determine progress toward excellence is useful according to Florida's community college presidents but may not be the most cost effective or efficient way to collect and document this information.
15. The results of this study indicate that the demographic and institutional characteristics chosen for analysis are in and of themselves not sufficient as predictors for determining the usefulness of the quality indicators for Florida's community college presidents.



### Recommendations

Given the understanding that any changes proposed must first be in concert with the policies and procedures approved by the State Board of Community Colleges, the following recommendations are made based on the results of this study:

1. Quality indicators used to assist in determining progress toward excellence for Florida community colleges should be designed to provide the information identified in this study as very useful to the community college presidents.
2. Using the results of this study, existing information systems in Florida's community colleges should be reviewed for usefulness in program quality-evaluation decision making and assessing progress toward excellence.
3. Using the results of this study, Florida's Community College Management Information System should be reviewed for usefulness in program quality-evaluation decision-making and assessing progress toward excellence.
4. Assessment of progress toward excellence in Florida's community college system should be designed and conducted in such a way that institutional differences and resources are accounted for.
5. Assessment of progress toward excellence in Florida's community college system should be designed and conducted in such a way that specific institutional programs and services are accounted for.

6. The results of this study should be considered as part of an assessment of how useful the present quality indicators are for determining progress toward excellence in Florida's community colleges.
7. Computerized systems should be designed and implemented using these identified indicators to produce institutional program profiles for use by community college presidents and their staffs engaged in program quality-evaluation decision-making and assessment of progress toward excellence.
8. Specific level of training and level of experience in program quality-evaluation decision-making (time spent, extent of involvement, extent of experience in program quality-evaluation decision-making) should be determined for the community college presidents and should be considered in the design, conduct, and/or evaluation of any existing or planned quality-evaluation information system.
9. The methodology used in this study should be used to refine the program/institutional quality-evaluation decision-making information needs at each community college.
10. The methodology used in this study should be used to identify the indicators used in program quality-evaluation information needs for other segments of Florida's educational system including K-12 and the State University System.
11. The methodology used in this study should be used to identify comparable indicators across all community colleges as they



- relate to national trends and state collected/determined criteria for assessing progress toward excellence.
12. This study should be conducted on a random sample of community college administrators with primary responsibilities in the program areas described in this study.
  13. This study should be conducted in other community college systems.
  14. As a follow-up to this study, a determination of direct costs associated with collecting, reviewing, documenting, and reporting the results of the quality indicators for each community college should be undertaken to develop cost-effectiveness profiles.
  15. The Florida Department of Education, Division of Community Colleges should undertake a study to determine if data collection requests to the community colleges can be consolidated to reduce redundancy in reporting this type of information.
  16. The additional quality indicators identified by the presidents in this study should be considered as input in any effort to redefine the quality indicators that should be used in assisting in the determination of progress toward excellence for Florida's community college systems.

APPENDICES

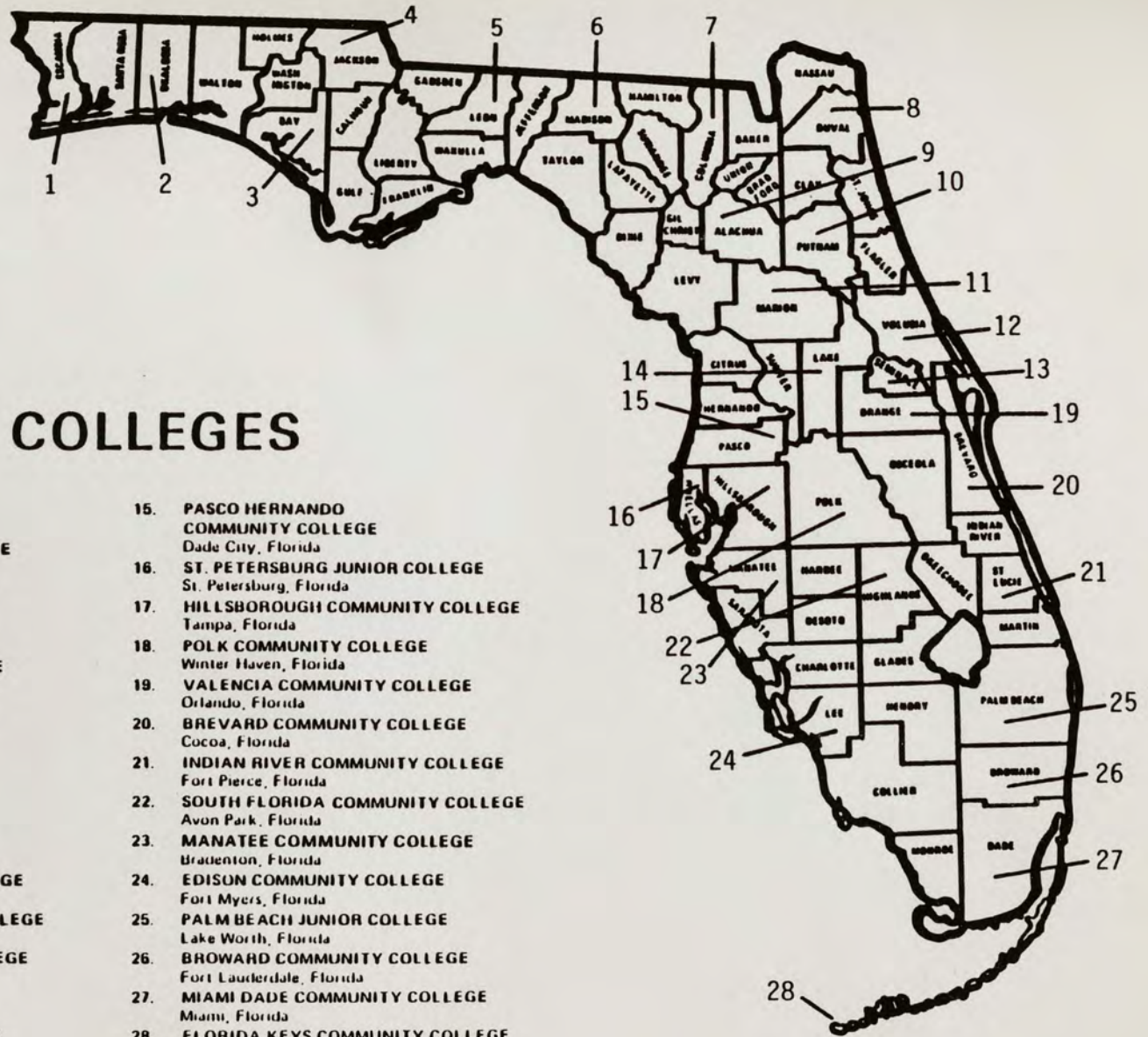


APPENDIX A

FLORIDA'S STATE COMMUNITY COLLEGE SYSTEM

# FLORIDA COMMUNITY COLLEGES

- |   |   |
|---|---|
| 1. <b>PENSACOLA JUNIOR COLLEGE</b><br>Pensacola, Florida                      | 15. <b>PASCO HERNANDO<br/>COMMUNITY COLLEGE</b><br>Dade City, Florida |
| 2. <b>OKALOOSA WALTON JUNIOR COLLEGE</b><br>Niceville, Florida                | 16. <b>ST. PETERSBURG JUNIOR COLLEGE</b><br>St. Petersburg, Florida   |
| 3. <b>GULF COAST COMMUNITY COLLEGE</b><br>Panama City, Florida                | 17. <b>HILLSBOROUGH COMMUNITY COLLEGE</b><br>Tampa, Florida           |
| 4. <b>CHIPOLA JUNIOR COLLEGE</b><br>Marianna, Florida                         | 18. <b>POLK COMMUNITY COLLEGE</b><br>Winter Haven, Florida            |
| 5. <b>TALLAHASSEE COMMUNITY COLLEGE</b><br>Tallahassee, Florida               | 19. <b>VALENCIA COMMUNITY COLLEGE</b><br>Orlando, Florida             |
| 6. <b>NORTH FLORIDA JUNIOR COLLEGE</b><br>Madison, Florida                    | 20. <b>BREVARD COMMUNITY COLLEGE</b><br>Cocoa, Florida                |
| 7. <b>LAKE CITY COMMUNITY COLLEGE</b><br>Lake City, Florida                   | 21. <b>INDIAN RIVER COMMUNITY COLLEGE</b><br>Fort Pierce, Florida     |
| 8. <b>FLORIDA JUNIOR COLLEGE<br/>AT JACKSONVILLE</b><br>Jacksonville, Florida | 22. <b>SOUTH FLORIDA COMMUNITY COLLEGE</b><br>Avon Park, Florida      |
| 9. <b>SANTA FE COMMUNITY COLLEGE</b><br>Gainesville, Florida                  | 23. <b>MANATEE COMMUNITY COLLEGE</b><br>Bradenton, Florida            |
| 10. <b>ST. JOHNS RIVER COMMUNITY COLLEGE</b><br>Palatka, Florida              | 24. <b>EDISON COMMUNITY COLLEGE</b><br>Fort Myers, Florida            |
| 11. <b>CENTRAL FLORIDA COMMUNITY COLLEGE</b><br>Ocala, Florida                | 25. <b>PALM BEACH JUNIOR COLLEGE</b><br>Lake Worth, Florida           |
| 12. <b>DAYTONA BEACH COMMUNITY COLLEGE</b><br>Daytona Beach, Florida          | 26. <b>BROWARD COMMUNITY COLLEGE</b><br>Fort Lauderdale, Florida      |
| 13. <b>SEMINOLE COMMUNITY COLLEGE</b><br>Sanford, Florida                     | 27. <b>MIAMI DADE COMMUNITY COLLEGE</b><br>Miami, Florida             |
| 14. <b>LAKE SUMTER COMMUNITY COLLEGE</b><br>Leesburg, Florida                 | 28. <b>FLORIDA KEYS COMMUNITY COLLEGE</b><br>Key West, Florida        |





K. L. O. R. I. P. A. C. O. M. M. U. N. I. T. Y. C. O. U. N. C. I. L. S.

**BREVARD COMMUNITY COLLEGE**  
1519 Clearlake Road  
Cocoa, Florida 32922  
William A. Secker, President  
Maxwell C. King, President  
(Brevard County)  
(305) 632-1111, SC 361-0011

**BROWARD COMMUNITY COLLEGE**  
225 E. Las Olas Boulevard  
Fort Lauderdale, Florida 33301  
A. Hugh Adams, President  
(Broward County)  
(305) 475-6500, SC 469-6500

**CENTRAL FLORIDA COMMUNITY COLLEGE**  
P. O. Box 1388  
Ocala, Florida 32678  
Henry E. Goodlett, President  
(Marion, Citrus, Levy Counties)  
(904) 237-2111, SC 340-1011

**CHRONA JUNIOR COLLEGE**  
Marianna, Florida 32446  
James W. Richeburg, President  
(Jackson, Calhoun, Holmes,  
Liberty, Washington Counties)  
(904) 526-2761, SC 246-1444

**DAYTONA BEACH COMMUNITY COLLEGE**  
P. O. Box 1111  
Daytona Beach, Florida 32015  
Charles H. Polk, President  
(Volusia, Flagler Counties)  
(904) 255-8131, SC 362-3111

**EDISON COMMUNITY COLLEGE**  
8099 College Parkway, S. W.  
Fort Myers, Florida 33907  
David G. Robinson, President  
(Lee, Charlotte, Collier,  
Glades, Hendry Counties)  
(813) 489-9300, SC 578-1300

**FLORIDA JUNIOR COLLEGE AT JACKSONVILLE**  
501 W. State Street  
Jacksonville, Florida 32202  
Charles C. Spouse, President  
(Duval, Nassau Counties)  
(904) 632-3000, SC 669-3000

**FLORIDA KEYS COMMUNITY COLLEGE**  
Key West, Florida 33040  
William A. Secker, President  
(Monroe County)  
(305) 296-9081, SC 485-1011.

**GULF COAST COMMUNITY COLLEGE**  
5230 W. Highway 98  
Panama City, Florida 32401  
Lawrence W. Tyrore, President  
(Bay, Franklin, Gulf Counties)  
(904) 769-1551, SC 280-1011

**HILLSBOROUGH COMMUNITY COLLEGE**  
P. O. Box 22127  
Tampa, Florida 33622  
Andreas A. Patonakis, President  
(Hillsborough County)  
(813) 879-7222, SC 553-1011

**INDIAN RIVER COMMUNITY COLLEGE**  
3209 Virginia Avenue  
Fort Pierce, Florida 33450  
Barman A. Boise, President  
(St. Lucie, Indian River,  
Martin, Okeechobee Counties)  
(305) 464-2000, SC 466-1011

**LAKE CITY COMMUNITY COLLEGE**  
Lake City, Florida 32055  
Marfel E. Malmur, President  
(Columbia, Baker, Dixie,  
Gilchrist, Union Counties)  
(904) 752-1822, SC 640-1000

**LAKE SUMNER COMMUNITY COLLEGE**  
Lacaburg, Florida 32748  
Robert Palinchak, President  
(Lake, Sumter Counties)  
(904) 787-3747, SC 387-1011

**MANATEE COMMUNITY COLLEGE**  
5840 26th Street, West  
Bradenton, Florida 33507  
Stephen J. Korchuck, President  
(Manatee, Sarasota Counties)  
(813) 755-1511, SC 560-4011

**MIAMI-DADE COMMUNITY COLLEGE**  
300 N. E. Second Street  
Miami, Florida 33132  
Robert M. McCabe, President  
(Dade County)  
(305) 596-1200, SC 477-1000

**NORTH FLORIDA JUNIOR COLLEGE**  
1000 Turner Davis Drive  
Madison, Florida 32340  
Robert W. Ramsey, President  
(Madison, Hamilton, Jefferson  
Lafayette, Suwannee, Taylor Cos.)  
(904) 973-2288

**OKALOOSA-WALTON JUNIOR COLLEGE**  
Niceville, Florida 32578  
J. E. McCracken, President  
(Okaloosa, Walton Counties)  
(904) 678-5111, SC 233-1011

**PALM BEACH JUNIOR COLLEGE**  
4200 Congress Avenue  
Lake Worth, Florida 33461  
Edward M. Stacey, President  
(Palm Beach County)  
(305) 439-8000, SC 458-8000

**PASCO-HERNANDO COMMUNITY COLLEGE**  
2401 State Highway 41, North  
Dade City, Florida 33525  
Milton O. Jones, President  
(Hernando, Pasco Counties)  
(904) 567-6701, SC 572-1101

**PENSACOLA JUNIOR COLLEGE**  
1000 College Boulevard  
Pensacola, Florida 32504  
Borace E. Bartsell, President  
(Escambia, Santa Rosa Counties)  
(904) 476-5410, SC 249-0111

**POLK COMMUNITY COLLEGE**  
999 Avenue H, N. E.  
Winter Haven, Florida 33880  
Maryly VanDeer Peck, President  
(Polk County)  
(813) 294-7771, SC 580-1000

**ST. JOHNS RIVER COMMUNITY COLLEGE**  
5001 St. Johns Avenue  
Palatka, Florida 32077  
Robert L. McLendon, Jr., President  
(Putnam, Clay, St. Johns Counties)  
(904) 328-1571, SC 646-1111

**ST. PETERSBURG JUNIOR COLLEGE**  
P. O. Box 13489  
St. Petersburg, Florida 33733  
Carl M. Kuttler, Jr., President  
(Pinellas County)  
(813) 546-0021, SC 528-3600

**SANTA FE COMMUNITY COLLEGE**  
P. O. Box 1530  
Gainesville, Florida 32602  
Alan J. Robertson, President  
(Alachua, Bradford Counties)  
(904) 395-5000, SC 650-5000

**SEMINOLE COMMUNITY COLLEGE**  
Sanford, Florida 32771  
Karl S. Weldon, President  
(Seminole County)  
(305) 323-1450, SC 390-1011

**SOUTH FLORIDA COMMUNITY COLLEGE**  
600 W. College Drive  
Avon Park, Florida 33825  
Catherine P. Cornelius, President  
(Highlands, De Soto, Hardee Counties)  
(813) 453-6661, SC 550-1127

**TALAHASSEE COMMUNITY COLLEGE**  
444 Appleyard Drive  
Tallahassee, Florida 32304  
James H. Blinson, Jr., President  
(Leon, Gadsden, Wakulla Counties)  
(904) 576-5181, SC 241-1011

**VALONCIA COMMUNITY COLLEGE**  
1 W. Church Street  
P. O. Box 3028  
Orlando, Florida 32802  
Paul C. Gianini, Jr., President  
(Orange, Osceola Counties)  
(305) 299-5000, SC 398-5000



APPENDIX B

INDICATORS OF PROGRESS TOWARD EXCELLENCE  
STATE COMMUNITY COLLEGE SYSTEM (ORIGINAL)



## INDICATORS OF PROGRESS TOWARD EXCELLENCE

(ORIGINAL)

1. Academic Scholarships and Fellowships Awarded to Graduates
2. CLAST Scores
3. Findings of Follow-up Studies of Graduates
4. Licensure Examinations of Graduates
5. Percentage of Degree Seeking Students Who are Awarded Degrees
6. Percentage of Students Who Complete Compensatory Instruction, then Continue to Receive Degrees or Certificates
7. Average Full-time Faculty Salary
8. Number of National Merit Scholars Enrolled as First-Time-In-College Students
9. Percentage of First-Time-In-College Students Who Ranked in the Top Tenth of their High School Graduating Classes
10. Percentage of Full-time Faculty by Highest Earned Degree
11. Results of Tests Administered to Students Entering Colleges for the First Time

12. State Financial Aid per FTE Student
13. Accreditation
14. FTE Student/FTE Faculty Ratio
15. Library Expenditures per FTE Student
16. Operating Expenditures per FTE Student
17. Progress toward Faculty and Administrator Goals of the State Plan  
for EA/E0
18. Progress toward Student Goals of the State Plan for EA/E0
19. Program, School, or College Rank



APPENDIX C

INDICATORS OF PROGRESS TOWARD EXCELLENCE  
STATE COMMUNITY COLLEGE SYSTEM (REVISED)

## INDICATORS OF PROGRESS TOWARD EXCELLENCE

(REVISED)

1. Scholarships, Awards and Recognition Received by Students and College Personnel
2. CLAST Scores as Compared to College Entrance Examination Scores
3. Findings of Follow-up Studies of Graduates
4. Licensure Examination Results of Graduates
5. Percentage of Full-time Degree Seeking Students Who Are Awarded Degrees
6. Percentage of Students Who Complete College Preparatory Instruction, then Continue to Receive Degrees or Certificates
7. Average Full-time Faculty Salary
8. Percentage of First-Time-In-College Students from the Community College District High School Graduating Classes
9. Percentage of Full-time Faculty by Highest Degree Earned
10. Percentage of Full-time Faculty Who Have Participated in Update Training
11. State Financial Aid per FTE Student



12. Accreditation
13. FTE Student/FTE Faculty Ratio
14. Library and Instructional Equipment Expenditures per FTE Student
15. Overall Operating Expenditures of the Community College per FTE Student
16. Progress Toward the Faculty and Administrator Goals of the State Plan for EA/E0
17. Progress Toward the Student Goals of the State Plan for EA/E0
18. Number of Business and Industry Partnerships
19. Identification of Exemplary Programs
20. Identification of Community Service Programs

APPENDIX D

COVER LETTER FOR SURVEY QUESTIONNAIRE





STATE OF FLORIDA  
 STATE BOARD OF  
 COMMUNITY COLLEGES



WENDELL W. WILLIAMS  
 CHAIRMAN

Department of Education  
 Tallahassee 32301

CLARK MAXWELL, JR.  
 EXECUTIVE DIRECTOR

BYRON L. SPARBER  
 VICE CHAIRMAN

MEMO NO. 87-39

October 22, 1986

MEMORANDUM

TO: Community College Presidents  
 FROM: Clark Maxwell, Jr. *CM*  
 SUBJECT: Community College Quality Indicators Questionnaire

Attached is a questionnaire created by George Barcus, a graduate student at the University of Central Florida. He was an observer on our State Board of Community Colleges Task Force on Quality Indicators this past Spring.

George has developed this questionnaire as a part of his research and has addressed "indicators of excellence" in a broader sense than our Task Force. I am impressed with it, and I think this questionnaire might assist us in looking at the whole idea of "movement toward excellence." Your input would be helpful to me.

Would you please send the completed questionnaire to Bill Proctor no later than November 7?

Dr. William B. Proctor  
 Deputy Executive Director  
 Program and Administrative Services  
 State Board of Community Colleges  
 Knott Building  
 Tallahassee, Florida 32399

Your efforts are appreciated, and I hope to use the results as we continue to address quality indicators.

kps  
 Attachment

APPENDIX E  
SURVEY QUESTIONNAIRE



# COMMUNITY COLLEGE QUALITY INDICATORS QUESTIONNAIRE

## Step 1

Print or type:

YOUR NAME \_\_\_\_\_

NAME OF COLLEGE \_\_\_\_\_

## Step 2

The purpose of this questionnaire is to determine your rating of the USEFULNESS of the indicators provided. These "quality" indicators for the Florida Community College system have been developed using existing indicators of progress toward excellence and revised indicators that reflect the mission of the community college. Rating choices are provided.

The indicators relate to four categories concerning information about:

I. Students II. Faculty/Staff III. Costs/Resources IV. General

Space is provided for you to add indicators. Rate any added indicator in the same manner as the other indicators in the category.

SCAN THE ENTIRE QUESTIONNAIRE BEFORE YOU BEGIN RATING.

PLEASE USE A PENCIL FOR YOUR RESPONSES.

DIRECT ANY QUESTIONS REGARDING THE QUESTIONNAIRE TO THE OFFICE OF THE EXECUTIVE DIRECTOR, STATE BOARD OF COMMUNITY COLLEGES, TALLAHASSEE, FLORIDA.

## Step 3

In the list below, check one program area that you feel best represents the program area with which you most closely identify yourself in rating the indicators.

General (No specific area in mind)

Advanced and Professional

Occupational

Developmental

Community Instructional Services

Student Support Services

Other: \_\_\_\_\_  
(Please specify)

Step 4

Please provide the following information:

Years in present position: \_\_\_\_\_ Years at present college: \_\_\_\_\_

Years in community college education: \_\_\_\_\_

Years in education other than community college education: \_\_\_\_\_

Birthdate: \_\_\_\_/\_\_\_\_/\_\_\_\_ Sex: \_\_female \_\_male  
(mo) (da) (yr)

Highest degree held: \_\_bachelor \_\_master \_\_specialist \_\_doctorate

Step 5

DIRECTIONS: Rate the following statements by first reading the entry and then asking, "Assuming the data was available, how useful would it be for my college personnel to collect and report this data in order to improve the overall quality of our programs, student services and/or our institution?"

Rate each entry by placing an X on the scale that reflects the degree of usefulness that item has.

EXAMPLE

Very Useful		Of Some Use			Of Little Use			Of No Use		
X										
10	9	8	7	6	5	4	3	2	1	----- 0 -----

Rate any indicators you perceive as not applicable to your institution or programs with a '0'.



1) The job placement rate for students receiving the AA/AS degree.

Very Useful		Of Some Use			Of Little Use			Of No Use				
10	9	8	7	6	5	4	3	2	1	----	0	----

2) Amount of money spent per FTE student on library and instructional equipment/materials.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

3) The total impact your college has with its business and industry partnerships.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

4) Overall operating expenditures per FTE student as compared to the national average.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

5) The degree of change from last year in making progress on the state plan for faculty and administrator EA/EO goals.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

6) The degree of improvement made by the low achievers (those scoring in the lower quartile on the College Entry Level Test) on the CLAST test.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

7) Number of full-time faculty who have received an additional degree after the degree held when originally hired.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

8) The number of community service programs your college has participated in this year.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

9) Overall operating expenditures per FTE student.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

10) Amount of state financial aid received by each full-time student compared to the national average.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

11) The average part-time faculty salary.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

12) The costs associated with maintaining those programs your college considers as exemplary, more successful than usual or of very high quality.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

13) Library and instructional equipment expenditures as compared to the national average.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

14) The number of students who pass their licensure examinations for each program offered.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

15) How the college has fared with its faculty and administrator EA/EO goals as compared to the other Florida community colleges.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

16) Amount of state financial aid received by each full-time student.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

17) The number of full-time students enrolled with the number who eventually graduate.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

18) The number of presently enrolled students who have graduated from the district high schools.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------

19) Percent of programs in the college which can be and are accredited.

10	9	8	7	6	5	4	3	2	1	----	0	----
----	---	---	---	---	---	---	---	---	---	------	---	------



20) The costs associated with your college's participation in all its community service programs for the year.

Very Useful			Of Some Use			Of Little Use			Of No Use		
10	9	8	7	6	5	4	3	2	1	0	----

21) Number of full-time faculty who hold the doctorate degree.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

22) The number of college preparatory students who ultimately graduate.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

23) Number of full-time faculty who have participated in update training.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

24) The percentage of AA degree students who continue their education in the upper-division level.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

25) Overall FTE Faculty/FTE Student ratio.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

26) Comparison of the pass rates for licensed programs to the national averages.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

27) The number of students who have received awards or scholarships.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

28) The number of students affected by those programs that your college considers as exemplary, more successful than usual or of very high quality.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

29) Number of full-time faculty that have more than a four-year degree.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

30) The degree of change from last year in making progress on the state plan for student EA/EO goals.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

31) How the college has fared with its student EA/EO goals as compared to the other Florida community colleges.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

32) The number of business and industry partnerships established during the year.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

33) The number of college preparatory students as compared to all others who ultimately graduate.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

34) Total amount of money spent to maintain accreditation.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

35) The number of full-time degree seeking students who receive a degree.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

36) College FTE Faculty/FTE Student ratios compared to national averages.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------

37) The percent of area high school students who have enrolled in the college as compared to other types of institutions.

10	9	8	7	6	5	4	3	2	1	0	----
----	---	---	---	---	---	---	---	---	---	---	------



38) The degree of improvement made by the high achievers (those scoring in the upper quartile on the College Entry Level Test) on the CLAST test.

Very Useful				Of Some Use				Of Little Use			Of No Use	
10	9	8	7	6	5	4	3	2	1	----0----		

39) The average full-time faculty salary.

10	9	8	7	6	5	4	3	2	1	----0----	
----	---	---	---	---	---	---	---	---	---	-----------	--

40) Faculty members and administrators who have been recognized for superior work.

10	9	8	7	6	5	4	3	2	1	----0----	
----	---	---	---	---	---	---	---	---	---	-----------	--

Add any additional indicators you feel are appropriate here, and please rate them as you have the others.

10	9	8	7	6	5	4	3	2	1	----0----	
----	---	---	---	---	---	---	---	---	---	-----------	--

10	9	8	7	6	5	4	3	2	1	----0----	
----	---	---	---	---	---	---	---	---	---	-----------	--

10	9	8	7	6	5	4	3	2	1	----0----	
----	---	---	---	---	---	---	---	---	---	-----------	--

10	9	8	7	6	5	4	3	2	1	----0----	
----	---	---	---	---	---	---	---	---	---	-----------	--

Step 6

Please indicate your opinions of the following:

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OPINION CHOICES

1 = NONE ("None of my activities or time") 2 = LITTLE ("Less than one-fourth but more than none of my activities or time") 3 = SOME ("One-fourth or more but less than three-fourths of my activities or time") 4 = CONSIDERABLE ("Three-fourths or more but less than all my activities or time") 5 = ALL (TOTAL) ("100% of my activities or time")

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Using one of the OPINION CHOICES listed above, indicate your perception of:

The degree to which your POSITION AS PRESIDENT is associated with each program area:

\_\_\_\_\_ Advanced and Professional      \_\_\_\_\_ Community Instructional Services

\_\_\_\_\_ Developmental    \_\_\_\_\_ Occupational    \_\_\_\_\_ Student Support Services

Amount of TIME you spend in program quality-evaluation activities \_\_\_\_\_

Extent of your INVOLVEMENT in program quality-evaluation decision-making at your institution \_\_\_\_\_

Please indicate your perception of your LEVEL OF EXPERIENCE in program quality-evaluation decision-making by checking one of the following:

\_\_\_\_\_ NONE      \_\_\_\_\_ LITTLE      \_\_\_\_\_ SOME      \_\_\_\_\_ CONSIDERABLE

PLEASE ADD ANY COMMENTS REGARDING THE PROGRAM QUALITY-EVALUATION PROCESS AT YOUR COLLEGE OR ANY COMMENTS ABOUT THIS QUESTIONNAIRE (ATTACH ADDITIONAL PAGE IF REQUIRED)

Step 7

Please return this questionnaire in the envelope provided.

Thank you for the expenditure of your time and energy on this project.



APPENDIX F  
CLASSIFICATIONS USED IN DATA ANALYSIS

## CLASSIFICATIONS USED IN DATA ANALYSIS

### Program Areas

1. Advanced and Professional Program Area - most commonly referred to as university parallel, the first two years of a baccalaureate program.
2. Occupational Program Area - also known as vocational-technical education, terminal certificate or degree programs which prepare students for employment in a specific trade or field.
3. Community Instructional Services Program Area - programs of short, credit or noncredit classes which are designed to provide enrichment for students.
4. Developmental Program Area - or compensatory education, designed to assist students in improving any deficient basic skills necessary for program required work.
5. Student Support Services Program Area - various auxiliary services which are provided to students facilitating their progress through one of the academic areas including services as counseling, student activities, admissions, financial aid, etc.

### Administrative Areas

1. General - respondents who, when answering the questionnaire had no specific administrative area in mind.



2. Occupational - respondents who, when answering the questionnaire, felt the occupational area best represented the program area in which they most closely identified themselves.
3. Developmental - respondents who, when answering the questionnaire, felt the developmental area best represented the program area in which they most closely identified themselves.
4. Student Support Services - respondents who, when answering the questionnaire, felt the student support services area best represented the program area in which they most closely identified themselves.
5. Advanced and Professional - respondents who, when answering the questionnaire, felt the advanced and professional area best represented the program area in which they most closely identified themselves.
6. Community Instructional Services - respondents who, when answering the questionnaire, felt the community instructional services area best represented the program area in which they most closely identified themselves.
7. Other - respondents who, when answering the questionnaire felt that none of the program areas listed were adequate and choose a response of their own.

### Personal Characteristics

1. Years in Present Position - number of years the respondent has held current position. Four divisions were used for comparison: less than three years, three to five years, six to fifteen years, and greater than fifteen years.
2. Years at Present College - number of years the respondent has been employed by present college. Four divisions were used for comparison: less than six years, six to ten years, eleven to fifteen years, and greater than fifteen years.
3. Years in Community College Education - total number of years the respondent has been with a community college. Four divisions were used for comparison: less than seven years, seven to eleven years, twelve to fifteen years, and greater than fifteen years.
4. Years in Education Other than Community College Education - number of years the respondent has been employed in an educational institution other than a community college. Four divisions were used for comparison: less than one year, one to five years, six to ten years, and greater than ten years.
5. Birthdate - month, day and year in which the respondent was born.
6. Sex - male or female.
7. Degree Level - Bachelors, Masters, Specialist or Doctorate.



### Institutional Characteristics

1. Market Region - The Bureau of Economic and Business Research at the University of Florida has divided the state of Florida into five market regions based primarily on location. These market regions are: (1) Northwest - from Taylor County west; (2) Northeast - from Marion County north; (3) Central - from Flagler county to Sumter County south to Osceola County; (4) Southwest - from Citrus County to Highlands County south to Collier County; and (5) Southeast - from Indian River County south. Colleges were categorized based on their location in one of these market regions (Shoemyen, 1985, p. 27).
2. Total FTE - total FTE (Full-time equivalent) served by each institution during the 1984-1985 school year. Three divisions were used for comparison: less than 2,900, 2,900 to 8,000 and greater than 8,000 (Florida Department of Education, 1986, p. 13).
3. Percent of Total College FTE Served Classified in the Advanced and Professional Program Area - during the 1984-1985 school year. Three divisions were used for comparison: less than 50%, 50% to 60%, and greater than 60% (Florida Department of Education, 1986, p. 13-21).

4. Percent of Total College FTE Served Classified in the Occupational Program Area - during the 1985-1986 school year. Three divisions were used for comparison: less than 33%, 33% to 37%, and greater than 37% (Florida Department of Education, 1986, p. 13-21).  
NOTE: FTE numbers for vocational designator used for occupational category.
5. Percent of Total College FTE Served Classified in the Developmental Program Area - during the 1985-1986 school year. Three divisions were used for comparisons: less than 1%, 1% to 10%, and greater than 10% (Florida Department of Education, 1986, p. 13-21).
6. Colleges Designated as Area Vocational Education Schools - by the Florida Department of Education were compared with those not so designated (Department of Education, 1986, p. 125-126).

#### Indicator Groups

1. Students - those indicators primarily related to student activities, reception of degrees, awards, certificates or recognition.
2. Faculty/Staff - those indicators primarily related to faculty and staff benefits, services provided, awards or recognition.
3. Costs/Resources - those indicators used in the questionnaire whether related to student or faculty/staff activities that



have as the main objective the determination of costs or use of resources.

4. General Information - those indicators used in the questionnaire that fall in a category other than students, faculty/staff, or costs/resources.

#### Respondent Opinions

1. Program Area as Associated to Position as President - respondents' opinion as to the degree to which their position as president is associated with the following program areas: (1) Advanced and Professional, (2) Developmental, (3) Community Instructional Services, (4) Occupational, and (5) Student Support Services. The following five point scale was used: 1 = none, 2 = little, 3 = some, 4 = considerable, and 5 = all. This scale was collapsed into three categories for the purpose of reporting correlations. Opinion choices 1 and 2 became "little", opinion choice 3 remained "some", and opinion choices 4 and 5 became "much".
2. Time Spent in Program Quality-Evaluation Activities - respondents' opinions of time spent involved in program quality-evaluation activities. The opinion choices were identical to those used in the previous opinion grouping and were handled identically for the purpose of reporting correlations.

3. Extent of Involvement in Program Quality-Evaluation

Decision-Making - respondents' opinions of their extent of involvement in program quality-evaluation decision-making at their institutions. The opinion choices were identical to those used in the previous two opinion groupings and were handled identically for the purpose of reporting correlations.

4. Level of Experience in Program Quality-Evaluation

Decision-Making - respondents' opinions of their level of experience in program quality-evaluation decision-making. A four point scale was used: "none," "little," "some" and "considerable."

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NOTE: In order to build on an established body of research, the attempt was made to replicate, with some variation and up-dating, the same data classifications used in the 1982 report developed by the Florida Community/Junior College Inter-institutional Research Council in the report on the Program Quality Indicators Project entitled, "Quality: A Decision Making Approach".



APPENDIX G

ANALYSIS RESULTS FOR EACH SURVEY INDICATOR

INDICATOR 1: The job placement rate for students receiving the AA/AS degree.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	4	1	3.6	3.6
Of some use	5	1	3.6	7.1
Of some use	6	3	10.7	17.9
Of some use	7	3	10.7	28.6
Very useful	8	11	39.3	67.9
Very useful	9	3	10.7	78.6
Very useful	10	6	21.4	100.0
	TOTAL	28	100.0	

Valid Cases - 28    Missing Cases - 0

Mean - 7.964    Standard Deviation - 1.575    Minimum - 4.000    Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 1











INDICATOR 5: The degree of change from last year in making progress on the state plan for faculty and administrator EA/EO goals.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	1	1	3.6	3.6
Of little use	2	1	3.6	7.1
Of little use	3	3	10.7	17.9
Of little use	4	2	7.1	25.0
Of some use	5	5	17.9	42.9
Of some use	6	1	3.6	46.4
Of some use	7	5	17.9	64.3
Very useful	8	6	21.4	85.7
Very useful	9	3	10.7	96.4
Very useful	10	1	3.6	100.0
		TOTAL	28	100.0

Valid Cases - 28      Missing Cases - 0

Mean - 6.107      Standard Deviation - 2.378      Minimum - 1.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 5



INDICATOR 6: The degree of improvement made by the low achievers (those scoring in the lower quartile on the College Entry Level Test) on the CLAST test.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of no use	0	1	3.6	3.6
Of little use	1	1	3.6	7.1
Of little use	4	3	10.7	17.9
Of some use	5	3	10.7	28.6
Of some use	6	5	17.9	46.4
Of some use	7	1	3.6	50.0
Very useful	8	6	21.4	71.4
Very useful	9	6	21.4	92.9
Very useful	10	2	7.1	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 6.679      Standard Deviation - 2.539      Minimum - 0.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 6

INDICATOR 7: Number of full-time faculty who have received an additional degree after the degree held when originally hired.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	2	4	14.3	14.3
Of little use	3	3	10.7	25.0
Of little use	4	1	3.6	28.6
Of some use	5	6	21.4	50.0
Of some use	6	7	25.0	75.0
Of some use	7	3	10.7	85.7
Very useful	8	3	10.7	96.4
Very useful	9	1	3.6	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 5.250      Standard Deviation - 2.012      Minimum - 2.000      Maximum - 9.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 7









INDICATOR 10: Amount of state financial aid received by each full-time student compared to the national average.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	2	2	7.1	7.1
Of little use	3	3	10.7	17.9
Of some use	5	5	17.9	35.7
Of some use	6	3	10.7	46.4
Of some use	7	3	10.7	57.1
Very useful	8	5	17.9	75.0
Very useful	9	5	17.9	92.9
Very useful	10	2	7.1	100.0
		<hr/>	<hr/>	
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 6.500      Standard Deviation - 2.411      Minimum - 2.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 10

INDICATOR 11: The average part-time faculty salary.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of no use	0	2	7.1	7.1
Of little use	2	1	3.6	10.7
Of little use	3	2	7.1	17.9
Of little use	4	4	14.3	32.1
Of some use	5	2	7.1	39.3
Of some use	6	6	21.4	60.7
Of some use	7	1	3.6	64.3
Very useful	8	6	21.4	85.7
Very useful	9	3	10.7	96.4
Very useful	10	1	3.6	100.0
TOTAL		28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 5.786      Standard Deviation - 2.658      Minimum - 0.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 11









INDICATOR 14: The number of students who pass their licensure examinations for each program offered.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of some use	6	1	3.6	3.6
Of some use	7	2	7.1	10.7
Very useful	8	6	21.4	32.1
Very useful	9	9	32.1	64.3
Very useful	10	10	35.7	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 8.893      Standard Deviation - 1.100      Minimum - 6.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 14

























INDICATOR 23: Number of full-time faculty who have participated in update training.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of some use	5	2	7.1	7.1
Of some use	6	6	21.4	28.6
Of some use	7	4	14.3	42.9
Very useful	8	5	17.9	60.7
Very useful	9	8	28.6	89.3
Very useful	10	3	10.7	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 7.714      Standard Deviation - 1.536      Minimum - 5.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 23



INDICATOR 24: The percentage of AA degree students who continue their education in the upper-division level.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of some use	6	2	7.1	7.1
Of some use	7	3	10.7	17.9
Very useful	8	10	35.7	53.6
Very useful	9	9	32.1	85.7
Very useful	10	4	14.3	100.0
		<hr/>	<hr/>	
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 8.357      Standard Deviation - 1.096      Minimum - 6.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 24

INDICATOR 25: Overall FTE Faculty/FTE Student ratio.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	1	1	3.6	3.6
Of some use	5	2	7.1	10.7
Of some use	6	6	21.4	32.1
Of some use	7	7	25.0	57.1
Very useful	8	5	17.9	75.0
Very useful	9	5	17.9	92.9
Very useful	10	2	7.1	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 7.179      Standard Deviation - 1.847      Minimum - 1.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 25



INDICATOR 26: Comparison of the pass rate for licensed programs to the national averages.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of some use	5	1	3.6	3.6
Of some use	6	4	14.3	17.9
Of some use	7	3	10.7	28.6
Very useful	8	9	32.1	60.7
Very useful	9	8	28.6	89.3
Very useful	10	3	10.7	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 8.000      Standard Deviation - 1.333      Minimum - 5.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 26











INDICATOR 30: The degree of change from last year in making progress on the state plan for student EA/E0 goals.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of no use	0	1	3.6	3.6
Of little use	2	1	3.6	7.1
Of little use	3	2	7.1	14.3
Of little use	4	2	7.1	21.4
Of some use	5	1	3.6	25.0
Of some use	6	6	21.4	46.4
Of some use	7	2	7.1	53.6
Very useful	8	9	32.1	85.7
Very useful	9	2	7.1	92.9
Very useful	10	2	7.1	100.0
TOTAL		28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 6.464      Standard Deviation - 2.442      Minimum - 0.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 30





INDICATOR 32: The number of business and industry partnerships established during the year.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	2	1	3.6	3.6
Of little use	4	1	3.6	7.1
Of some use	5	3	10.7	17.9
Of some use	6	5	17.9	35.7
Of some use	7	3	10.7	46.4
Very useful	8	8	28.6	75.0
Very useful	9	3	10.7	85.7
Very useful	10	4	14.3	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 7.250      Standard Deviation - 1.974      Minimum - 2.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 32





INDICATOR 34: Total amount of money spent to maintain accreditation.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of no use	0	5	17.9	17.9
Of little use	3	3	10.7	28.6
Of little use	4	5	17.9	46.4
Of some use	5	2	7.1	53.6
Of some use	6	5	17.9	71.4
Of some use	7	1	3.6	75.0
Very useful	8	3	10.7	85.7
Very useful	9	2	7.1	92.9
Very useful	10	2	7.1	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing - 0

Mean - 4.929      Standard Deviation - 3.102      Minimum - 0.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 34

INDICATOR 35: The number of full-time degree seeking students who receive a degree.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	4	1	3.6	3.6
Of some use	5	3	10.7	14.3
Of some use	6	6	21.4	35.7
Of some use	7	2	7.1	42.9
Very useful	8	9	32.1	75.0
Very useful	9	5	17.9	92.9
Very useful	10	2	7.1	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 7.357      Standard Deviation - 1.615      Minimum - 4.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 35



INDICATOR 36: College FTE Faculty/FTE Student ratios compared to national averages.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	3	1	3.6	3.6
Of little use	4	4	14.3	17.9
Of some use	5	4	14.3	32.1
Of some use	6	5	17.9	50.0
Of some use	7	2	7.1	57.1
Very useful	8	8	28.6	85.7
Very useful	10	4	14.3	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 6.679      Standard Deviation - 2.056      Minimum - 3.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 36







INDICATOR 39: The average full-time faculty salary.

<u>Rating</u>	<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Cum Percent</u>
Of little use	3	1	3.6	3.6
Of some use	5	4	14.3	17.9
Of some use	6	3	10.7	28.6
Very useful	8	8	28.6	57.1
Very useful	9	6	21.4	78.6
Very useful	10	6	21.4	100.0
	TOTAL	28	100.0	

Valid Cases - 28      Missing Cases - 0

Mean - 7.821      Standard Deviation - 1.945      Minimum - 3.000      Maximum - 10.000

ANALYSIS RESULTS FOR SURVEY INDICATOR NUMBER 39





APPENDIX H  
SURVEY FOLLOW-UP RESPONSES



## SURVEY FOLLOW-UP RESPONSES

As a follow-up to the survey questionnaire, ten of the twenty-eight community colleges were randomly selected to respond to a series of questions about the quality indicators process and express their views on the usefulness of this process. The questions asked of the ten were: (1) Did the indicators listed in the questionnaire adequately address the range of responses needed to identify "quality" programs, student services and/or outcomes at your institution?, (2) If not, what indicators should be used?, (3) Does the present system for identifying "quality" at your institution work well or does it need improvement? What improvements?, (4) Is it possible to identify and report "quality" in this manner?, and (5) In your opinion, is it useful to collect and report this type of information? Useful to whom and why? It should be noted that although the community college presidents were contacted directly for their responses, they may have directed others to respond for them. The following is a summary (paraphrased by the author) of those college responses:

### Gulf Coast Community College-

The college felt that the indicators listed in the questionnaire did in fact address the range of responses needed to identify "quality" programs, student services and/or outcomes at their institution. They felt that the indicators did provide an adequate umbrella and are broad enough to do the job.

The system used at the college to identify "quality" seems to work well. The community college staff prepares an institutional plan for collecting the data - complete with objectives, action statements and stated evaluation measures - and uses this plan in assembling, reviewing and understanding the data that is collected. Although some of the areas of data collection are more difficult to do than others, it is felt that it is possible to get the job done with a reasonable amount of effort.

In response to whether or not it is possible to identify and report "quality" in this manner, the community college felt it depends on the definition of "quality". Are these really indicators of excellence? Do they really show "quality"? The college is not convinced they do. But, if by using an agreed to list of indicators it can be shown that something of value can be gained, then it makes sense to continue the process. This type of information can be helpful in identifying a profile of the community college and it also helps by showing how it is doing compared to other community colleges using the same measures.



The college felt it is useful to collect this data by the fact that it does require the college to develop an annual institutional plan to address these issues. Using this plan can then assist the college in identifying programs or services that may need improvement.

Those at the community college also felt there are areas in which the reporting process can be improved. Overall, using the process does help the college and the state by identifying this type of information and if used properly can assist in making improvements to the entire community college system.

#### Chipola Junior College -

The college expressed concern that all the indicators listed were useful but more could be added. Indicators of this type could go on and on. The problem is to identify those that truly measure quality and are of a manageable size.

The intent would be for the college to identify and track the progress made on those indicators that they (community college administrators) felt best represent the concerns of the college.

The college felt that the system did not work well. They asked why many of the indicators could not be answered at the state level. They felt that some of the data required for the indicators is difficult for the college to collect. Concern was also expressed for the changing definitions of the indicators. Standardization must be accomplished for FTE counts, student classifications, etc. If the state could better define the data elements, more consistent information could be obtained.

Improvements could be made by clarifying the indicators and eliminating the duplication of collection of data. The college felt that quality could be identified and reported in this manner and that the community colleges have an obligation to do so.

The college felt that the institution gains from the collection, display and review of this type of data. The community colleges should use the data for comparison to other institutions. The collection of data could be used to supplement the present program review process for the AA and vocational programs.

Concern was expressed for the feeling that considerable effort is expended to report this data but at times it appears that little is done with it once it reaches the state level.



### Seminole Community College -

The college felt that the indicators were adequate. Possibly, the list of indicators may be too long.

They did feel that the present system needs improvement. More attention must be paid to what the indicators are showing in terms of improvements. Quality can be determined in this manner and if used as a guide, these indicators can help in identifying those areas of the institution that are doing well and those areas that need attention.

Because quality is such a vague concept, definitions are difficult to develop. One college's success may not even be a priority item for another institution. However, these indicators do help in identifying a common list of areas that can form the benchmark for the entire community college system.

The college does feel that it is useful to collect and report this type of information. It helps identify those areas that need improvement and can also help in spotting trends that are occurring at the college. The institution itself is the winner by developing this information.

The information that comes from responding to the indicators can be used by the college in its future planning. Areas of financial aid and curriculum improvements are two examples. The indicators are useful to the college in determining its strengths and weaknesses.

### Lake-Sumter Community College -

The college felt that the list of indicators used in the questionnaire was quite complete. They are broad enough to cover most areas of concern. No particular areas of improvement were identified.

The system used at the college to collect this data could use improvement. Some responses to the indicators are only superficial. More in-depth research is needed to adequately respond to the real intent of the indicators. A better computer system that could be used to assist in maintaining records and information would be helpful to the college. Additional staff, hardware and software materials are needed to help keep track of this type of information.

The college feels that it is only partially possible to identify and report "quality" in this manner. Again, more in-depth information is needed to really develop the complete picture as to why and how well the college's programs are working.



Particularly for a small institution it is helpful to collect this type of information. It helps in terms of establishing how well the college is doing in certain areas as compared to other institutions of similar size and with closely related missions.

This information also assists the college in its own review process. Although at times the quality of the data itself is suspect, it is still helpful to have some guide to go by.

One concern is the way in which the state may use the information. They must be sensitive to the fact that although a college may reflect acceptable "numbers" in certain areas, there may be reason to be concerned for how well the programs are funded, and how well the colleges are able to maintain the highest standards possible. In short, this system is only one input into the process of adequately identifying "quality" and progress toward excellence within the community college system.

#### Valencia Community College -

The college considered the indicators to be generally good. Concern was expressed that the single indicators may give a distorted picture of what may be happening at the college. The example of CLAST scores was given as indicative of this problem. Comparing Miami-Dade to Indian River or Chipola for example may not explain population, program or institutional differences. Institutional indicators are in many cases too broad to be very very useful. More specific program indicators are needed to address this issue of "quality".

The present system for identifying "quality" needs improvement. Presently, institution research is being done at Valencia to develop the tools and models required to collect and report pertinent information for specific program areas. Additional staff has recently been added to work in this area. The time it presently takes to develop input into existing reports, send them to Tallahassee and then receive the completed report back for use is too lengthy. Each institution needs the capability to develop their own decision support systems for use in improving their programs.

The community college believes that it is possible to identify and report "quality" in this manner as long as explanations are allowed to account for unique circumstances. Using only numerical responses does not allow for the differences in the colleges.

If the colleges are able to tailor the report to their own needs, it was felt that it would be much more valuable to both the state and the reporting college. If these differences are allowed, then the state could use them for state-wide planning. However, this information



should not be used for comparing institution to institution but as a guide in striving for overall advancement and improvement in the community college system. Presently the information does not exist that would allow for state to state comparisons, so the information can only be used as a barometer of what is happening within the state.

#### Brevard Community College -

Some of the indicators are good without question. For example, knowing how well the college is doing on its pass rates for licensure examinations is important. However, although tracking progress on EA/EO goals may be considered worthwhile, does this really reflect "quality" at the community college? Some think it does not. Usually, "quality" has more to do with image and reputation, in particular, how well are the students doing both while in our programs and when they leave. The idea of the value-added concept is better accepted than being only concerned with how we "rate" on an individual indicator. These group indicators as such in most cases miss the mark. The indicators that should be used have much to do with the mission of the institution. Why not think of ourselves at times as being involved with the traditional concept of educational instruction - like the German University model - knowledge for knowledge sake. Although we have a commitment to vocational and skill training, we must also be concerned with the overall career orientation and the intellectual growth of the student.

Does this system work well? First, the system for identifying "quality" must be better developed. The present system does allow for an assessment of the college's strengths and weaknesses. It can supplement the existing accreditation process, program reviews, and senior administrative reviews. But as a singular source for identifying progress toward excellence or as a determinant of "quality", it is lacking. By asking "Why not the best" for our programs and services, the college always attempts to strive for the highest quality in all that it does. But this attempt to improve can be slowed when the bureaucratic paperwork required to document it may at times be overwhelming.

Although reluctant to say this process is not worthwhile, any effort to improve is worthwhile, exception is taken to the amount of return for the effort required. The problem appears to be that no one really seems to know what "quality" is.

This process is helpful to the college in the sense that it does focus our attention in certain areas and requires the college to assess how programs and initiatives are developing and growing.



### Indian River Community College -

The college feels that the indicators do a good job. No major improvements are needed.

The present system of data collection works well. The system allows for feedback. This feedback assists the college and also permits close coordination with the public schools. By sharing this information, the community college and the public schools can better determine how well they are doing in meeting the student's needs.

The use of the quality indicators is a good approach. Certainly it can be improved and this is something that should continue. It is the best system we have at the present but like all things it could become better. The colleges should participate in the review and improvement of the indicators as programs, priorities and requirements change.

The indicators are helpful to the college by the fact that they require the community college to look at themselves. The college is not suspicious of why the questions are being asked. They like reporting their successes and feel that the indicators help them assess their strengths and weaknesses.

### Manatee Community College -

The college considers the indicators to be broad enough to adequately address the important issues of the college. They are also in-depth enough to identify areas of concern for the institution.

The system requires continuous refinement. If not careful, one area that gets attention may keep another area from being identified when in need. The indicators do help the community college see how they are doing. By using the indicators, they are forced to go back and see how well their programs and services are working. It helps them keep on track. The use of the quality indicators requires the college to focus on all the issues across the board.

The college feels that it is possible to identify "quality" in this manner, but the items (indicators) should change from time to time.

They feel that it is useful to the college to collect and report this type of information because it makes the college accountable for its actions. This process is helpful because it is similar to the accreditation process. It lets the college know how things are going.



Palm Beach Junior College -

The attitude expressed concerning these indicators is one of doubt. The college doubts that it is possible to determine "quality" programs or services in this manner. The time and resources required to respond to the indicators do not offer enough return for the effort. Indicators that may work well for the university system (and it was felt that many of these indicators were more suited to the universities) do not work well for the community college. Although reluctant to criticize a system without being able to offer a better solution, the view is that the system in its present form does not really work. At best, the indicators may allow the results to be used as a benchmark for comparisons across the community colleges.

Concerns about how well the system works aside, it is possible to collect the data required. Although not in perfect order, the college's ability to secure the information seems to work well. It must be noted, though, that the demand for record keeping required to respond to the data items is at times excessive.

The improvements that can be made to the system include an improvement in the state's ability to pull much of this same information from existing data bases. The college feels that many of the state required reports could be completed by combining the results from similar requests for information. Once is enough. Commonality of requests could go a long way to cutting down the number of reports generated.

It is possible to identify and report "quality" in this manner, but only in the sense of comparing college to college. It should not be used to praise one school and shame another only because one school responded differently to the indicators. To really be useful, data must be compared nationally. This data does not exist. More work is needed to better define the indicators. It would be very helpful if the indicators that truly do identify quality community colleges could be determined. More research is needed to identify these types of indicators.

In its present form, it is felt that this system is not very useful to the community college, and without improvements, it should not be continued. The record keeping is immense. The best that it can be used for is as a self-check system. At a minimum, some of the indicators should be dropped and others added.



Miami-Dade Community College -

No, the indicators do not do the job. The concern should be for output. The college feels we must first determine the potential of our students and then determine a way to assess whether or not the community college has assisted these students in meeting their potential. They (community college administrators) must be concerned with results. Are they retaining the students they should and are they making progress where they should?

It appears those involved with this process are willing to settle for the easy ones. We don't need as many indicators, but we do need more meaningful ones. Some of the indicators are not very helpful to the community college. Some of the quality indicators are fine for the universities, but community colleges have different concerns, different types of programs and students. The community college should assess its programs differently. If the indicators can help them improve and make progress, then the effort it takes to collect the data might then be considered worthwhile.

It is possible to identify and report "quality" in this manner, but the college is not convinced that these indicators are sufficient. Some of the indicators are fine, but some do not reflect the objectives of the community college.

Collecting and reporting this type of information can be helpful in assessing internal programs at the college. The college does not feel that the state reports that are generated from this information are very useful in their present form. Improvements can be made. As an example, this institution has initiated writing requirements in every course. The state could assist by reporting national trends in this area. This could be useful for determining program adjustments. This college has participated on task forces that have studied the national movement on assessment. The college understands the value of identifying and reporting excellence. Recognition should be given to excellent students, programs and faculty. It is not the quantity of the indicators but the quality of the quality indicators themselves that concerns the college.



APPENDIX I

ADDITIONAL INDICATORS WITH RATINGS  
IDENTIFIED BY COMMUNITY COLLEGE

ADDITIONAL INDICATORS WITH RATINGS  
IDENTIFIED BY COMMUNITY COLLEGE

Survey questionnaire respondents were given the opportunity to add any indicators of their own. Those additional indicators with ratings are listed below by community college.

Ocala-Walton Junior College-

- Percentage of students passing CLAST compared to CJC state average. (8)
- Percentage of AA graduates receiving bachelor's degrees within three years compared to state average. (8)
- Cumulative GPA of AA graduates in SUS compared to state average. (9)
- Correlation between CLAST scores and academic achievement. (10)
- Years of experience in field of instruction. (10)

Tallahassee Community College-

- Distribution of resources between instruction and non-instruction costs. (9)
- Annual salary increase reports by category of personnel. (8)
- Ratio of students dropping out of courses during semester. (9)
- Number of students entering community college from each senior class. (7)

Florida Junior College at Jacksonville-

- Number of new programs being developed. (9)
- Amount of unsolicited but positive publicity about the college. (9)
- Comprehensive mission statement reflecting legislative and state board mandate. (10)



- Number of community leaders participating in college advisory committees and related boards. (9)

Saint Petersburg Junior College-

- External recognition of programs or activities. (9)
- Performance of graduates in upper division. (8)
- Quality of audits. (8)

Valencia Community College-

- The degree of improvement of degree seeking students comparing entry and CLAST scores. (8)
- The comparison of AA and AS degree graduates to total FTE. (8)
- Perceived satisfaction of graduates/completers. (8)
- Employer ratings of graduates/employees. (8)

Brevard Community College-

- Average salary of alumni compared with national average. (7)
- Honors and recognition received by alumni in public and professional life. (7)
- Satisfaction of employers with the educational and skill levels of graduates. (10)
- Number and percent of graduates accepted in nationally recognized (prestigious) colleges and universities. (6)
- Number of illiterates taught to read. (7)

Edison Community College-

- Endowment funds received and invested. (9)
- Grade comparison of transfers and native students in junior year. (10)

## Palm Beach Junior College-

- Number or percentage of students completing educational goals. (10)
- Number or percentage of students transferring to universities. (9)

## Miami-Dade Community College-

- The number of FTE graduates as compared to potential (number of credits enrolled in by degree seekers divided by credits by mean graduates). (10)
- The number of students completing objectives of less than Associate degree. (10)
- The number of % students completing degrees, still enrolled or transferring with satisfactory average. (10)



APPENDIX J

QUESTIONNAIRE RESULTS FOR ALL RESPONDENTS

COMMUNITY COLLEGE DESIGNATOR NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
QUESTIONNAIRE														
INDICATOR														
NUMBER														
1	10	8	9	10	6	9	8	8	9	8	8	6	10	8
2	8	9	6	8	8	9	5	9	5	6	8	4	7	8
3	10	8	10	9	5	9	7	10	0	6	10	4	9	8
4	10	8	6	9	10	9	4	9	5	3	4	6	7	9
5	10	5	8	9	4	9	5	9	8	2	4	3	7	8
6	9	6	8	10	9	9	6	10	0	5	5	4	8	8
7	6	3	5	6	6	5	2	7	7	2	2	6	6	7
8	9	4	9	8	6	9	8	10	6	3	9	5	8	8
9	10	8	9	10	10	9	5	10	5	6	4	5	6	9
10	10	5	5	10	6	9	3	9	3	3	5	5	6	9
11	10	6	8	5	8	9	3	9	0	3	4	6	5	9
12	10	7	7	7	7	9	6	10	9	8	6	5	7	8
13	10	10	5	8	9	5	4	9	9	6	4	6	5	9
14	6	10	10	10	9	9	8	10	9	8	9	7	10	9
15	6	3	9	10	5	6	8	10	8	2	5	3	7	8
16	8	3	8	8	6	9	7	8	3	5	6	5	8	9
17	5	8	6	10	6	9	6	9	0	8	6	6	6	9
18	7	5	8	10	7	9	7	10	5	5	6	3	8	9
19	8	10	7	8	0	6	8	8	10	3	4	8	10	6
20	9	3	8	8	6	8	6	9	3	5	5	4	6	8
21	10	7	5	8	6	5	4	8	7	3	2	8	7	7
22	10	6	9	9	9	6	6	0	4	5	9	8	6	9
23	10	9	10	6	9	5	6	9	7	8	6	8	9	9
24	7	9	8	10	9	9	8	10	8	8	9	8	10	7
25	6	9	7	7	10	8	6	9	6	6	7	5	8	10
26	8	8	9	9	9	5	6	9	9	6	7	6	8	7
27	8	7	6	10	7	5	6	8	3	6	5	5	8	7
28	8	8	7	8	7	9	6	9	5	8	7	6	8	8
29	8	8	8	6	7	6	3	8	7	9	4	8	8	7
30	6	6	9	8	5	8	6	10	8	3	9	3	7	8
31	6	6	9	8	6	9	6	10	8	6	8	3	7	8
32	10	4	10	8	6	6	8	10	6	5	9	8	9	7
33	10	4	8	9	8	5	6	9	0	5	9	6	8	7
34	6	0	9	7	4	6	6	9	3	0	3	4	4	4
35	10	6	5	9	7	8	6	9	9	6	9	6	8	10
36	10	8	5	8	10	8	5	10	6	3	4	6	6	8
37	10	8	10	9	8	8	6	10	3	9	8	6	7	8
38	7	8	8	10	9	6	6	9	0	6	5	7	7	7
39	10	8	9	8	10	9	6	9	3	9	5	6	5	8
40	10	8	8	9	5	8	6	10	7	8	5	5	9	7



## COMMUNITY COLLEGE DESIGNATOR NUMBER - continued

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
PROGRAM MOST CLOSELY IDENT.														
-	T	T	G	G	G	G	G	G	G	G	G	A	G	A
YEARS IN PRESENT POS.														
-	6	14	10	5	11	3	2	1	14	15	21	13	20	6
YEARS AT PRESENT COL														
-	6	24	11	5	3	3	2	1	17	21	25	13	20	6
YEARS IN COM. COL. EDUCATION														
-	18	41	17	14	20	14	12	15	21	23	25	17	25	20
OTHER THAN COM. COL. EDUCATION														
-	29	0	2	3	17	5	0	0	0	0	8	2	4	2
BIRTHDATE														
-	35	22	44	45	25	44	33	43	21	37	19	44	28	42
SEX														
-	M	M	M	M	M	M	F	M	M	M	M	M	M	M
HIGEST DEGREE HELD														
-	D	D	D	D	D	D	D	D	S	D	D	D	D	D
POSITION ASSOC. WITH PROGRAM														
- A&P	4	3	3	4	3	4	3	2	4	3	3	2	2	4
- CIS	4	3	3	2	2	3	2	2	2	2	2	2	2	4
- DEV	4	3	2	3	2	3	2	2	2	2	2	2	2	4
- OCC	4	3	3	3	2	3	3	2	4	3	3	2	2	4
- SSS	4	3	2	2	2	3	2	2	3	3	3	2	2	2

## COMMUNITY COLLEGE DESIGNATOR NUMBER - continued

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
AMOUNT OF TIME														
-	3	2	3	3	3	3	2	3	3	3	2	3	2	3
EXTENT OF INVOLVEMENT														
-	4	2	3	4	3	4	3	3	4	4	4	3	3	3
LEVEL OF EXPERIENCE														
-	4	3	4	4	4	4	3	4	4	4	4	4	3	4



## COMMUNITY COLLEGE DESIGNATOR NUMBER

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
QUESTIONNAIRE														
INDICATOR														
NUMBER														
1	10	8	8	5	7	4	8	8	7	10	8	7	6	10
2	6	6	8	7	7	5	6	7	7	7	10	8	0	9
3	8	8	8	5	9	5	8	7	6	10	0	8	9	6
4	2	5	8	7	6	6	8	8	8	8	9	8	8	6
5	7	8	8	5	6	1	5	5	3	7	7	7	8	3
6	9	9	8	6	6	1	4	4	6	8	7	5	8	9
7	9	6	8	3	6	5	8	2	8	5	5	5	4	3
8	9	7	8	6	7	5	7	3	7	8	8	6	6	6
9	5	7	8	6	5	5	8	8	8	10	9	8	7	9
10	2	7	8	5	6	2	8	8	8	7	7	8	9	9
11	7	8	4	6	6	2	6	8	4	4	6	8	0	8
12	7	8	9	7	8	3	9	5	7	9	5	8	7	8
13	2	7	4	7	7	5	7	8	8	7	10	7	7	8
14	10	10	10	9	9	8	10	8	8	9	10	7	9	8
15	8	9	10	5	6	2	8	8	4	9	7	7	8	5
16	7	7	9	6	6	3	8	8	5	8	7	8	9	2
17	6	7	5	7	3	6	5	8	7	10	6	5	0	0
18	9	8	8	8	7	3	4	8	8	8	5	9	7	3
19	9	8	10	8	5	5	5	6	8	8	8	9	10	3
20	8	7	10	7	6	2	6	5	8	8	7	6	5	3
21	7	7	9	7	7	8	8	6	9	6	8	7	5	6
22	7	9	8	9	7	4	3	8	8	9	5	6	10	9
23	9	9	6	8	6	5	8	7	8	10	7	6	9	6
24	9	9	9	8	8	8	6	8	8	10	6	7	9	9
25	7	7	1	7	8	6	5	8	8	9	9	6	7	9
26	6	9	10	8	8	8	8	8	8	9	10	7	9	10
27	6	7	5	7	5	8	6	8	7	8	8	8	9	0
28	6	6	9	8	5	3	4	6	8	9	6	7	9	6
29	10	7	9	7	8	5	10	6	8	7	20	6	0	6
30	8	8	10	6	6	2	4	8	4	8	7	6	8	0
31	8	9	10	6	6	2	4	8	5	9	7	6	8	5
32	8	9	10	6	8	2	5	5	8	8	7	7	8	9
33	8	8	10	8	6	3	3	8	8	10	6	8	9	3
34	6	4	10	8	6	3	0	8	5	10	8	5	0	0
35	6	6	7	8	8	5	4	8	8	8	8	5	9	8
36	4	5	4	7	8	7	5	8	6	8	10	4	6	8
37	8	8	9	8	8	5	4	8	8	9	7	5	9	8
38	7	8	10	7	6	6	8	5	8	8	7	5	7	6
39	10	10	10	6	8	8	9	8	8	10	9	8	5	5
40	9	10	7	6	7	8	8	5	8	10	8	7	9	0

## COMMUNITY COLLEGE DESIGNATOR NUMBER - continued

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
PROGRAM MOST CLOSELY IDENT.														
-	G	G	G	G	G	G	A	G	G	G	G	G	G	G
YEARS IN PRESENT POS.														
-	15	8	3	4	2	18	19	3	6	23	8	18	8	7
YEARS AT PRESENT COL														
-	15	20	3	4	2	18	19	3	15	25	11	18	21	7
YEARS IN COM. COL. EDUCATION														
-	24	20	9	10	21	26	26	20	15	29	11	18	23	20
OTHER THAN COM. COL. EDUCATION														
-	27	20	27	13	0	10	1	4	7	4	25	34	10	0
BIRTHDATE														
-	33	40	25	30	39	28	24	41	32	29	28	28	29	39
SEX														
-	M	M	M	F	M	M	M	F	M	M	M	M	M	M
HIGHEST DEGREE HELD														
-	D	D	D	D	D	D	D	D	D	D	D	D	D	D
POSITION ASSOC. WITH PROGRAM														
- A&P	4	3	2	3	3	3	3	2	2	2	3	3	3	3
- CIS	2	3	2	3	3	2	3	2	2	2	3	2	2	2
- DEV	2	3	2	3	3	2	2	2	2	2	3	2	3	2
- OCC	4	3	2	3	3	2	3	2	2	2	3	3	3	3
- SSS	4	3	2	3	3	3	2	2	2	2	3	3	3	4



## COMMUNITY COLLEGE DESIGNATOR NUMBER - continued

	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
AMOUNT OF TIME	-	3	3	2	2	4	4	2	2	2	3	2	3	2	4
EXTENT OF INVOLVEMENT	-	4	4	2	2	5	4	4	4	2	3	3	3	4	2
LEVEL OF EXPERIENCE	-	4	3	4	4	4	4	4	4	4	3	3	4	4	4

APPENDIX K  
ADDITIONAL SURVEY RESPONSES



## ADDITIONAL SURVEY RESPONSES

All survey questionnaire respondents were given the opportunity to add comments. Those comments are listed below by community college.

### Santa Fe Community College-

The indicators have been rated based solely on their usefulness. Since the questions of availability and comparability of data was not asked, it was not considered in the response. However, it is obvious that an indicator has no "usefulness" if it can't be measured. I feel strongly that the questions of availability and comparability must be resolved before a final decision on the use of any indicator is made. The Management Information Task Force (MISATFOR) would be an obvious place to start with these questions.

EA/EO goals are critically important but are they quality measures?

### Central Florida Community College-

Had some difficulty determining whether answers were to reflect state or college information. Some answers would be more important to internal affairs, while others pertain to the state.

### Pasco-Hernando Community College-

(Author's note: This respondent felt many of the indicators were too broad or were not definitive enough.)

### Saint Petersburg Junior College-

(Author's note: This respondent suggests that the author contact state officials to investigate what Saint Petersburg Junior College is doing on the national level, Texas and elsewhere in the area of "quality in education". It was noted that Saint Petersburg Junior College is working with the Commission of Excellence in this area.)

### Polk Community College-

I probably have to spend less time (in program quality-evaluation activities) because I do have a lot of experience in this. My time is

also better spent in some other areas such as fund raising and image raising in the community.

#### Valencia Community College-

Single numerical indicators of excellence may be misinterpreted in comparing excellence among institutions. Heterogeneous populations in growing metropolitan areas can create an entirely different student population than in areas with a more homogeneous, stable population.

Further, these indicators may not reflect changing conditions within individual institutions. For example, if enrollments are increasing, the number of minority students may be increasing while the percentage may remain stable or decline. When comparisons are made, they typically show differences from one year to the next. Changes that are implemented to improve quality of programs may not produce measurable benefits for several years.

Most indicators do not show any value-added benefits to students after they have been out of college for several years. Indicators present a snapshot and do not reflect the quality and performance of a total institution that is continually growing and changing.

#### Brevard Community College-

Programs are constantly being reviewed by student evaluations of instruction each term, by community impact studies, employer follow-up surveys, alumni and completer/leaver surveys, accreditation reviews and other local, state or regional evaluations. The types of indicators of quality represented in this questionnaire and indicators of progress toward excellence are not judged to be very useful or meaningful.

#### Palm Beach Junior College

- As you may know, a number of your survey items are duplicative.
- Statements with words such as "impact" are difficult to rate. "Impact" is not a measurable quantity.
- Statements about AS and AS degrees should be separated.

#### Miami-Dade Community College-

Any attempt to quantify all indicators will produce more work than result. Care should be taken on success measures.



APPENDIX L

ONE-WAY ANALYSIS OF VARIANCE (ANOVA) TABLES  
FOR ALL INDICATOR GROUPS BY INSTITUTIONAL CHARACTERISTICS

TABLE 24  
Student Indicators by Vocational Category ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	1	1.1200	1.1200	.8895	.3543
Within Groups	26	32.7371	1.2591		
Total	27	33.8571			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Vocational	14	7.2286	1.3453
Non-Vocational	14	7.6286	.8416



TABLE 25  
Faculty/Staff Indicators by Vocational Category ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	1	2.9738	2.9738	1.7469	.1978
Within Groups	26	44.2600	1.7023		
Total	27	47.2338			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Vocational	14	6.3036	1.4267
Non-Vocational	14	6.9554	1.1701

TABLE 26

Costs/Resources Indicators by Vocational Category ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	1	5.0363	5.0363	2.8928	.1009
Within Groups	26	45.2645	1.7409		
Total	27	50.3008			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Vocational	14	6.5446	1.5831
Non-Vocational	14	7.3929	.9877



TABLE 27  
General Indicators by Vocational Category ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	1	4.0999	4.0999	2.5176	.1247
Within Groups	26	42.3411	1.6285		
Total	27	46.4410			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Vocational	14	6.4490	1.5562
Non-Vocational	14	7.2143	.9139

TABLE 28  
Student Indicators by Market Region ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	4	9.4479	2.3620	2.2256	.0977
Within Groups	23	24.4093	1.0613		
Total	27	33.8571			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Northwest	5	7.9400	.8173
Northeast	6	7.4500	1.2438
Central	5	6.8000	1.3874
Southwest	7	8.0714	.7296
Southeast	5	6.6200	.8815



TABLE 29  
Faculty/Staff Indicators by Market Region ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	4	9.5049	2.3762	1.4486	.2502
Within Groups	23	37.7289	1.6404		
Total	27	47.2338			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Northwest	5	7.3500	.9819
Northeast	6	5.7917	1.7512
Central	5	6.3750	1.2437
Southwest	7	7.1786	.9839
Southeast	5	6.4000	1.2790

TABLE 30  
Costs/Resources Indicators by Market Region ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	4	9.5219	2.3805	1.3426	.2844
Within Groups	23	40.7789	1.7730		
Total	27	50.3008			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Northwest	5	7.9000	1.0285
Northeast	6	6.5417	1.7830
Central	5	6.1750	1.7266
Southwest	7	6.9286	1.1634
Southeast	5	7.4000	.3893



TABLE 31  
General Indicators by Market Region ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	4	9.4320	2.3580	1.4654	.2451
Within Groups	23	37.0089	1.6091		
Total	27	46.4410			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Northwest	5	7.6143	1.1073
Northeast	6	6.4405	1.8732
Central	5	6.4000	1.3273
Southwest	7	7.3980	.2700
Southeast	5	6.1571	1.0491

TABLE 32  
 Student Indicators by Total  
 FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	5.2460	2.6230	2.2919	.1219
Within Groups	25	28.6111	1.1444		
Total	27	33.8571			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	14	7.6857	.9371
Medium	10	6.8600	1.1787
Large	4	7.9500	1.2503



TABLE 33

Faculty/Staff Indicators by Total  
FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	2.2828	1.1414	.6348	.5384
Within Groups	25	44.9510	1.7980		
Total	27	47.2338			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	14	6.3571	1.3300
Medium	10	6.8250	1.2179
Large	4	7.0938	1.6937

TABLE 34  
 Costs/Resources Indicators by Total  
 FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	2.2644	1.1322	.5892	.5623
Within Groups	25	48.0364	1.9215		
Total	27	50.3008			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	14	6.9464	1.3398
Medium	10	6.7375	1.5292
Large	4	7.6250	1.1040



TABLE 35  
 General Indicators by Total  
 FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	4.0037	2.0018	1.1793	.3240
Within Groups	25	42.4373	1.6975		
Total	27	46.4410			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	14	6.8776	1.8518
Medium	10	6.4500	1.4623
Large	4	7.6250	1.2822

TABLE 36

Student Indicators by Advanced and Professional  
FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	4.6036	2.3018	1.9671	.1609
Within Groups	25	29.2535	1.1701		
Total	27	33.8571			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	12	7.1917	1.3228
Medium	11	7.9182	.9218
Large	5	6.9200	.6140



TABLE 37

Faculty/Staff Indicators by Advanced and  
Professional FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	4.4805	2.2403	1.3100	.2877
Within Groups	25	42.7533	1.7101		
Total	27	47.2338			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	12	6.4792	1.6778
Medium	11	7.0795	.8409
Large	5	6.0000	1.0861

TABLE 38

Costs/Resources Indicators by Advanced and  
Professional FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	3.0723	1.5361	.8131	.4549
Within Groups	25	47.2285	1.8891		
Total	27	50.3008			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	12	6.6354	1.7681
Medium	11	7.3636	.9544
Large	5	6.9000	.9658



TABLE 39  
 General Indicators by Advanced and  
 Professional FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	3.1380	1.5690	.9058	.4171
Within Groups	25	43.3030	1.7321		
Total	27	46.4410			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	12	6.6429	1.5100
Medium	11	7.2338	1.2438
Large	5	6.4000	.8293

TABLE 40

Student Indicators by Vocational  
FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	.8789	.4394	.3331	.7198
Within Groups	25	32.9783	1.3191		
Total	27	33.8571			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	4	7.5750	.4272
Medium	11	7.6000	1.1384
Large	13	7.2385	1.2738



TABLE 41  
 Faculty/Staff Indicators by Vocational  
 FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	4.9658	2.4829	1.4685	.2495
Within Groups	25	42.2681	1.6907		
Total	27	47.2338			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	4	6.1563	.9150
Medium	11	7.1477	1.2065
Large	13	6.3365	1.4491

TABLE 42

Costs/Resources Indicators by Vocational  
FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	8.9368	4.4684	2.7007	.0867
Within Groups	25	41.3640	1.6546		
Total	27	50.3008			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	4	7.2188	.4828
Medium	11	7.5795	1.2933
Large	13	6.3750	1.4124



TABLE 43

General Indicators by Vocational  
FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	2	1.9986	.9993	.5621	.5770
Within Groups	25	44.4423	1.7777		
Total	27	46.4410			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	4	6.9107	.6043
Medium	11	7.1299	1.5412
Large	13	6.5549	1.2778

TABLE 44

Student Indicators by Developmental  
FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	1	.9098	.9098	.7179	.4046
Within Groups	26	32.9474	1.2672		
Total	27	33.8571			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	0	0.0000	0.0000
Medium	19	7.5526	.9611
Large	9	7.1667	1.4283



TABLE 45

Faculty/Staff Indicators by Developmental  
FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	1	.6289	.6289	.3509	.5587
Within Groups	26	46.6049	1.7925		
Total	27	47.2338			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	0	0.0000	0.0000
Medium	19	6.5263	1.3213
Large	9	6.8472	1.3775

TABLE 46

Costs/Resources Indicators by Developmental  
FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	1	.5950	.5950	.3112	.5817
Within Groups	26	49.7059	1.9118		
Total	27	50.3008			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	0	0.0000	0.0000
Medium	19	6.8684	1.1986
Large	9	7.1806	1.7265



TABLE 47  
 General Indicators by Developmental  
 FTE (Full-time Equivalent) ANOVA

SOURCE	D.F.	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
Between Groups	1	.0385	.0385	.0216	.8844
Within Groups	26	46.4025	1.7847		
Total	27	46.4410			

GROUP	COUNT	MEAN	STANDARD DEVIATION
Small	0	0.0000	0.0000
Medium	19	6.8571	1.2054
Large	9	6.7778	1.5910

## BIBLIOGRAPHY

- Adams, F. (1983). Evaluating, developing, and promoting community college staff. In A. Smith (Ed.), Evaluating faculty and staff. New directions for community colleges, No. 41. San Francisco: Jossey-Bass.
- Alfred, R. L. (1985). Emerging issues in public policy and financial administration. New Directions for Community Colleges, 13(2), 97-109.
- Alkin, M. C. (1969). Evaluation theory development. Evaluation Comment, 2, 2-7.
- Anderson, G. (1977, February 4). The evaluation of academic administrators. Paper presented at CASC/AAHE conference, Warrenton, VA. (ERIC Document Reproduction Service No. ED 136-629)
- Andrews, H. A. (1985). Evaluating for excellence: Addressing the need for responsible and effective faculty evaluation. Stillwater, OK: New Forums Press.
- Astin, A. W., & Solmon, L. C. (1979). Measuring academic quality: An interim report. Change, 48-51.
- Banghart, F. W., Kraprayoon, P., & Clewell, B. C. (1978). A study of educational quality: Development of indices and evaluation model. (Final Report, STAR Contract No. 77-2012). Tallahassee, FL: Office of the Governor, State of Florida.
- Bittner, E., Bungert, W. C., Guthrie-Morse, B., Mellan, W., Raines, R. H. & Sawyer, J. A. (1982). Indicators of quality in Florida's community colleges. Gainesville: University of Florida, Council on Instructional Affairs and the Council of Student Affairs, Florida Community Colleges.
- Bowen, H. R. (Ed.). (1974). Evaluating institutions for accountability. New directions for institutional research (No. 1). San Francisco: Jossey Bass.
- Bowker, A. H. (1964, March). Quality and quantity in higher education. Journal of the American Statistical Association, 1-15.



- Boyer, E. L. (1964). Academic excellence. Improving College and University Teaching, 12, 164.
- Burrill, D. A., & Chapdelaine, R. J. (1982, April). Quality and competence: Inseparable imperatives. Paper presented at the Annual Convention of the American Association of Community and Junior Colleges, St. Louis, MO.
- Burson, G. E. (1982). A concern for professionalism. Unpublished manuscript, Northern Oklahoma College, Tonkawa.
- Cashin, W. E. (1983). Concerns about using student ratings in community colleges. New Directions for Community Colleges, 11(1), 57-65.
- Cates, C. A. (1979). Administrator and faculty perceptions of desired formal and personal qualifications of faculty for the community junior college (Doctoral dissertation, University of Alabama, 1977). Dissertation Abstracts International, 39, 2193.
- Chapman, H. L. (1978). Evaluation of administration, instruction, and services of Dalton Junior College (Georgia) based on satisfaction levels of graduates (Doctoral dissertation, University of Tennessee, 1977). Dissertation Abstracts International, 38, 7097.
- Cheshire, N., & Hagermeyer, R. H. (1981). Evaluating job performance. Community and Junior College Journal, 52(4), 34-37.
- Clark, M. J., Hartnett, R. T., & Baird, L. L. (1976). Assessing dimensions of quality in doctoral education: A technical report of a national study in three fields. Princeton, NJ: Educational Testing Service. (ERIC Document Reproduction Service No. ED 173 144).
- Clowes, D. A. (1981). Community college program review: A model. Community College Review, 9(2), 3-9.
- Cobb, S. (1985, November-December). Let's reward quality. Change, 37-45.
- Cohen, A. M. (1981). Searching for quality. Paper presented to the faculty and staff of the Community College of Denver, Denver, CO.
- Council of Presidents Meeting, Florida Community Colleges (1986, May 22). Meeting held at Tallahassee, Florida. Agenda item addressed by the presidents of Florida's Community Colleges.
- Craven, E. C. (Ed). (1980). Academic program evaluation. New Directions for Institutional Research (No. 27). San Francisco: Jossey Bass.



- Cronbach, L.J. (1963). Educational psychology (2nd ed.). New York: Harcourt, Brace & World.
- Dickey, F. G. (1971). Accreditation: A means of determining quality. In T. Furniss (Ed.), Higher education for everybody?. Washington, D.C.: American Council on Education.
- Dubocq, T. (1981, July-August). American community colleges in crisis-- A conversation with Robert H. McCabe. Change, 26-31.
- Dzierlenga, D. W. (1980). ERIC: Evaluating community college administrators and faculty. Community College Frontiers, 53-56.
- Eaton, J. S. (1985). Excellence: Is it a betrayal of access? National Forum: Phi Kappa Phi Journal, 29-31.
- Elbon, C. F., & Rose, H. A. (1972). What are the ratings rating? American Psychologist, 27, 197-201.
- Fitzgerald, M. J., & Grafton, C. L. (1981, July-September). Comparisons and implications of peer and student evaluation for a community college faculty. Community/Junior College Research Quarterly, 331-37.
- Florida State Board of Education, Division of Community Colleges. (1986). The Florida Education Directory 1984-85. Tallahassee, FL: Florida Department of Education.
- Florida State Board of Education, Division of Community Colleges. (1986). Report for Florida community colleges 1984-85. Tallahassee, FL: Florida Department of Education.
- Fotheringham, D. J. (1979). Quality indicators in undergraduate education as viewed by selected respondents in selected colleges and universities. Dissertation Abstracts International, 39, 696A. (University Microfilms No. 78-14334, 129)
- Gourman, J. (1967). The Gourman report: Ratings of American colleges. Phoenix, AZ: Continuing Research Institute.
- Handleman, C. (1980, Spring). Teaching and academic standards today. Community College Review, 40-46.
- Haugen, R. E. (1984). Educationists and academics: Ratings of community college instructors. Community/Junior College Quarterly of Research and Practice, 8(1-4), 103-13.
- Herder, D. M., & Strandridge, L. A. (1980). Continuing education: Blueprint for excellence. Unpublished manuscript, Lansing Community College, Lansing, MI.



- Hinkley, B. (1983). Academic standards: The faculty's role. An academic senate position paper: Discussion and action. Unpublished manuscript, California Community College, Academic Senate, Sacramento, CA.
- Holley, W. H., & Field, H. S. (1977). The law and performance evaluation in education: A review of the court cases and implications for use. Journal of Law and Education, 6(4), 427-448.
- Kaplan, D. J. (1984). Components of successful training programs. New Directions for Community Colleges, 12(4), 83-93.
- Kaplin, W. A. (1979). The law of higher education. San Francisco: Jossey-Bass.
- Keim, W. A., & Keim, M. C. (Eds.). (1981). Marketing the program. New Directions for Community Colleges, 9(4), 130.
- Keller, J. (1969). Higher education objectives: Measures of performance and effectiveness. In J. Minter & B. Lawrence (Eds.), Management information systems: Their development and use in the administration of higher education. Boulder, CO: Western Interstate Commission for Higher Education.
- Kelly, J. T. (1985, Spring). A delicate balance: Miami-Dade community college's commitment for maintaining access and achievement. Career Training: National Association of Trade and Technical Schools, Washington, D.C., 22-27.
- Kennedy, W. R. (1980, July 10-11). Program evaluation for strategic planning in the two year college. Paper presented at the Annual Meeting of the North Central Region of the American Educational Research Association Special Interest Group for Community/Junior College Research, Columbus, OH.
- King, M. C. (1981, August 21). Quality assurance at B.C.C. Communique, (Brevard Community College), Cocoa, FL.
- Kocher, E. D., & Houston, C. (1983, August 1-3). How do you rate? Paper presented at the Annual Conference of the Southeastern Association for Community College Research: Community Colleges in the Information Society, Myrtle Beach, SC.
- Koltai, L. (1982). Down payment on the future. Community and Junior College Journal, 52(8), 14-17.



- Koltai, L., & Wolf, D. B. (1984a). Critical issues facing the community college. Summary of the Colloquium on the Critical Issues Facing the Community Colleges, Los Angeles, CA.
- Koltai, L., & Wolf, D. B. (1984b). A reasonable consensus. Community and Junior College Journal, 55(1), 42-45.
- Lahti, R. E. (1975). Improving performance appraisals. Community and Junior College Journal, 45(6), 8-10.
- Lawrence, B., Weathersby, G., & Patterson, V. W. (Eds.). (1970). Outputs of higher education: Their identification, measurement and evaluation. Boulder, CO: Western Interstate Commission for Higher Education.
- Lawrence, J. D., & Green, K. C. (1980). A question of quality: The higher education ratings game. AAHE-ERIC Higher Education Research Report No. 5. Washington, D.C.: American Association for Higher Education.
- Legislators stress quality improvement. (1980, October). Southern Regional Education Board Regional Action, 1-7.
- Lowe, I. D. (1983). Program evaluation at Foothill College. Unpublished manuscript, Foothill College, Los Altos Hills, CA.
- Lupton, D. (1979, September-October). The ten commandments of 'valid' performance appraisal. Roundup, 8-13.
- Magoun, H. W. (1966). The Carter report on quality in graduate education. Journal of Higher Education, 37, 481-492.
- Mark, S. F. (1982). Faculty evaluation in community colleges. Community/Junior College Research Quarterly, 6(2), 167-78.
- Maxwell, C., Jr. (1986, March 12). Remarks made at the first meeting of the Quality Indicators Task Force, State Board of Community Colleges, East Campus, Valencia Community College.
- McCabe, R. H. (1981). Now is the time to reform the American community college. Community and Junior College Journal, 51(8), 6-10.
- McCabe, R. H., & Skidmore, S. B. (1983). Miami-Dade results justify reforms. Community and Junior College Journal, 54(1), 26-29.
- Measurement and Reporting on Educational Excellence Act (1984). Florida Administrative Code (6A-10.243). Chapter 6A-10, Supplement 84-3, pp. 410-411.



- Munson, C. E., & Nelson, F. (1977). Measuring the quality of professional schools. UCLA Educator, 19, 41-52.
- Nagel, G. S. (1981). What community junior college presidents know and think about their local institutional image: A national study. Community/Junior College Research Quarterly, 5(3), 239-51.
- Nussbaum, T. (1983). Minimum standards for instructional programs, faculty and facilities. Unpublished manuscript, California Community College, Office of the Chancellor, Sacramento, CA.
- Olscamp, P. J. (1978). Can program quality be quantified? Journal of Higher Education, 49, 504-511.
- Ostar, A. W. (1973). Quality: How is it really measured? College and University Business, 54, 24-28.
- Palmer, J. C. (1983). How is quality measured at the community college? (Available from author, Palo Alto, California)
- Palmer, J. (1983). Sources and information: Faculty and administrator evaluation. New Directions for Community Colleges, 11(1), 109-18.
- Parnell, D. (1982). Some tough questions about community colleges. In AACJC pocket reader 3: American association of community and junior colleges. Washington, DC: American Association of Community and Junior Colleges.
- Pealer, C. H. (1980). An inside look at community assessment. Community College Frontiers, 9(1), 28-37.
- Piland, W. E. (1984). Student evaluation of instruction: Perceptions of community college students, faculty, and administrators. Community College/Junior College Quarterly of Research and Practice, 8(1-4), 115-25.
- Priest, W. J. (1980). Quality in higher education: A community college Perspective. Education Commission of the States, Inservice Education Program, State Higher Education Executive Officers Association. (Paper presented at a Seminar for State Leaders in Postsecondary Education,, San Antonio, TX.
- Pugh, G. A. P. (1980). Through the open door: Quality and equality of education for language differentiated students. Chabot College Journal, 4(1), 8-12.
- Richardson, R. C., Jr. (1983). Open access and institutional policy: Time for reexamination. Community College Review, 10, 47-51.



- Richardson, R. C., Jr. (1984, April). Assessing excellence/effectiveness in urban settings. Paper presented at the Annual Convention of the American Association of Community and Junior Colleges, Washington, D.C.
- Roueche, J. E., & Baker, G. A. (1985). The success connection: Toward equality with excellence. Community and Junior College Journal, 55(7), 18-22.
- Roueche, J. E., & Watkins, K. (1982). At the risk of appearing "uppity": A commitment to great teaching. Community and Junior College Journal, 53(1), 22-25.
- Sanchez, B. M. (1980). Administrator evaluation in the community college. Community/Junior College Research Quarterly, 4(2), 198-203.
- Saunders, D. S. (1981). Faculty evaluation: Process and procedure. Unpublished manuscript, Shelby State Community College, Memphis, TN.
- Schneider, C., Klemp, G., & Kastendick, S. (1981). The balancing act: Competencies of effective teachers and mentors in degree Programs for adults. Chicago, IL: University of Chicago.
- Scriven, M. (1973). Goal-free evaluation. In E. R. Hoose (Ed.), School evaluation: The politics and process. Berkeley, CA: McCutchan.
- Seitz, J. E. (1981). Program reassessment, reduction, and redirection. New Directions for Community Colleges, 9(1), 59-67.
- Seldin, P. (1980). Successful faculty evaluation programs. Cruger, NY: Coventry Press.
- Shaw, W. F. (1984, April). Professional development programs that work. Paper presented at the Annual Convention of the American Association of Community and Junior Colleges, Washington, D.C.
- Shoemyer, A. (1985). 1985 Florida Statistical Abstract. Gainesville, FL: University Press.
- Silverman, R. (1983). The sensitivity of eighteen quality measures of California community colleges to fluctuations in funding. Unpublished manuscript, University of California, Los Angeles, CA.
- Skinner, P., & Tafel, J. (1986). Promoting excellence in undergraduate education in Ohio. Journal of Higher Education, 57(1), 93-105.



- Smith, A. (1981). Evaluation in U.S. community college staff development. California Journal of Teacher Education, 8(4), 68-84.
- Smith, A. (1983). Evaluating faculty and staff. New Directions for Community Colleges, 11(1), 123.
- Smith, M. W. (1983). Deans: Here's how to get a little respect. Community and Junior College Journal, 54(3), 30-31.
- Smith, R. C. (1984). Why program review? Unpublished manuscript, Anchorage Community College, AK.
- Steuart, T. A., & Rathburn, C. B. (1982). Quality: A decision-making approach. Report of the Program Quality Indicators Project of the Florida Community/Junior College Inter-institutional Research Council, Gainesville, FL.
- Study Group on the Conditions of Excellence in American Higher Education. (1981, October). Text of new report on excellence in undergraduate education. The Chronicle of Higher Education, 35-49.
- Stufflebeam, D. L. (1968). Toward a science of educational evaluation. Educational Technology, 8(6), 5-12.
- Thomas, W. E. (1981, April). Legal considerations. Paper presented at the American Association of Community and Junior Colleges Conference, Washington, D.C.
- Thompson, C. P. (1985). Maintaining quality with open access. Community College Review, 12(4), 10-14.
- Toth, J. E. (1979). Governance of community colleges in the State of Illinois as perceived by trustees and presidents (Doctoral dissertation, Southern Illinois University at Carbondale, 1978). Dissertation Abstracts International, 39, 2016.
- Turnball, W. W. (1971). Dimensions of quality in higher education. In W. T. Furniss (Ed.), Higher education for everybody? Issues and implications. Washington, D.C.: American Council on Education.
- Van Allen, G. H. (1982). Students rate community college faculty as slightly above average. Community College Review, 10(1), 41-43.
- Veit, W. C. (1980). Faculty development in the university and the community college. Community College Social Science Journal, 3(1), 50-51.

- Walters, J. D. (1970). Indicators of quality obtained from an analysis of southern accreditation team visits to selected public junior colleges. Dissertation Abstracts International, 32, 1890A-1890B. (University Microfilms No. 71-24, 984, 161)
- Webster, D. S. (1981, October). Advantages and disadvantages of methods of assessing quality. Change, 20-24.
- Yess, J. P. (1981). Should college faculty be rated by students using instruments developed at the bargaining table? (Available from author, Massasoit Community College, Brockton, MA.)
- Yess, J. P. (1983). A guide for the systematic review of academic programs. Unpublished manuscript, Massasoit Community College, Brockton, MA.



## GENERAL REFERENCES

- Alkin, M. C., & Fitz-Gibbon, C. T. (1975). Methods and theories of evaluating programs. Journal of Research and Development in Education, 8 (3), 2-15.
- Anderson, S. B., Ball, S., & Murphy, R. T. (1975). Encyclopedia of educational evaluation. San Francisco: Jossey Bass.
- Bergman, B. A., & Siegel, A. I. (1972). Training evaluation and student achievement measurement: A review of the literature. Lowry Air Force Base, CO: Technical Training Division, Air Force Human Resources Laboratory.
- Bloom, B. S., Hastings, J. T., & Madaus, G. F. (1971). Handbook on formative and summative evaluation of student learning. New York: McGraw-Hill.
- Craven, E. C. (1975). Information decision systems in higher education: A conceptual framework. Journal of Higher Education, 46(2), 125-39.
- Cronbach, L. J. (1963). Course improvement through evaluation. Teachers College Record, 64, 672-683.
- Doll, R. C. (1970). Curriculum improvement: Decision making and process (2nd ed.). Boston, MA: Allyn & Bacon.
- Ebel, R. L. (1972). Essentials of educational measurement. Englewood Cliffs, NJ: Prentice-Hall.
- Gardner, D. E. (1977). Five evaluation frameworks. Journal of Higher Education, 48, 571-593.
- Guba, E. G. (1975). Problems in utilizing the results of evaluation. Journal of Research and Development in Education, 8(3), 42-54.
- Merwin, J. C. (1969). Historical review of changing concepts of evaluation. In R. W. Tyler (Ed.), Educational evaluation: New roles, new means. The sixty-eighth yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press.
- Popham, J. W. (1975). Educational evaluation. Englewood Cliffs, NJ: Prentice-Hall.

- Provus, M. (1971). Discrepancy evaluation. Berkeley, CA: McCutchan.
- Pyatte, J. A. (1970). Functions of program evaluation and evaluation models in education. High School Journal, 53, 385-401.
- Stufflebeam, D. L., Foley, W. J., Gephart, W. J., Guba, E. G., Hammond, R. L., Merriman, H. O., & Malcomb, M. P. (1971). Educational evaluation and decision making. PDKI-National Study Committee on Education. Bloomington, IN: PDK.
- Suchman, E. A. (1967). Evaluative research: Principles and practice in public service and social action programs. New York: Russell Sage Foundation.
- Tyler, R. W. (1951). The function of measurement in improving instruction. In E. F. Lindquist (Ed.), Educational measurement. Washington, D.C.: American Council on Education.
- Tyler, R. W., Gagne, R. M., & Scriven, M. (1967). Perspectives of curriculum evaluation. AERA Monograph Series on Curriculum Evaluation No. 1. Chicago: Rand McNally.
- Wolf, R. M. (1979). Evaluation in education: Foundations of competency assessment and program review. New York: Praeger.
- Worthen, B. R., & Sanders, J. R. (1973). Educational evaluation: Theory and practice. Worthington, OH: Charles A. Jones.