DEVELOPMENT AND VALIDATION OF AN INSTRUMENT TO MEASURE CREDIT CURRICULAR COMPREHENSIVENESS IN SMALL/RURAL COMMUNITY COLLEGES

by

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ABSTRACT

Based on the conviction that curricular comprehensiveness, the commitment to offer a broad spectrum of programs and courses for all members of the community, is an essential ingredient necessary for community colleges to carry out their mission, this study focused on the development and validation of an instrument to measure credit curricular comprehensiveness in small/rural community colleges. To accomplish this measurement, an index of comprehensiveness was devised based on occupational/technical program data from the 1980-1981 Higher Education General Information Survey (HEGIS) tapes and transfer and developmental/remedial program data from responses to a nationwide questionnaire. This index successfully enabled all 160 members of the study's population to be ranked with respect to comprehensiveness.

To validate this index, a jury of experts was employed comprised of 10 members of the American Association of Community Junior Colleges (AACJC) Small/Rural College Commission. Each juror, individually, was requested, via the use of Q sorts, to place in rank order, according to

their degree of credit curricular comprehensiveness, 11 institutions in a sample drawn from the study's population. Two statistical analyses were conducted on their responses, namely, the Spearman rank correlation coefficient (r_S) and the Kendall coefficient of concordance. Basically, the analyses revealed that on the average, the jurors (collectively and individually) used essentially the same or similar criteria to those employed by the researcher when developing the index.

Two major conclusions were drawn. First, it is possible to measure credit curricular comprehensiveness using the index of comprehensiveness. Second, the index is a valid instrument to measure credit curricular comprehensiveness as attested to by the statistical analyses performed on the data received from juridic responses via the use of Q sorts.

Recommendations for further research were suggested and implications for potential application of the index for educational practice and policy were presented.

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CHAPTER I

Introduction

The community college is recognized as America's unique contribution to higher education, a successful educational innovation that accounts for one third of all institutions of higher learning and over half of all undergraduates. One of the most distinguishing characteristics of the community college as well as one of its most significant contributions stems from its comprehensive curricular offerings. The notion of a comprehensive curriculum has enjoyed a long and close relationship with the community colleges, one that can be traced, in essence at least, to the establishment of the first two-year colleges. It is, in fact, to the tradition of the public school system that the community college owes its derivation. These traditions include universal opportunity for a locally controlled and supported free education with a curriculum committed to the needs of the country and the individual (Monroe, 1972, p. 1).

In this connection, the tremendous influence of the Morrill Act of 1862 which created the land grant colleges with their philosophy of practicality, service, and educational opportunity for all who could profit from it cannot be overstated (Vaughan, 1982). It was the forerunner of the movement for a people's college and represented the beginning of a major shift from an aristocratic philosophy to a

meritocratic one, a philosophy that was to last to the 1950s. The most recent promulgation of these philosophical principles, specifically issued in conjunction with the community college and its curriculum, can be found in the President's Commission on Higher Education (1947) and the President's Committee on Education Beyond the High School (1955-56).

The early to mid 1900s witnessed junior/community college approval of culminal vocational course offerings. By 1930, vocational education had become an established function. Although this move increased the diversity of curricular offerings, in reality, the transfer function remained predominant (Bogue, 1950). Despite admonishments to the contrary, junior/community colleges preferred to be regarded as transfer or feeder institutions, faithfully and uncritically duplicating freshmen and sophomore college coursework (Eells, 1941; Lange, 1915 in Bogue, 1950, p. 346). It was not until the passage of the Vocational Educational Act of 1963 that occupational/technical education came into its own (Harris & Grede, 1977). Currently, it accounts for over 60 percent of all community college enrollment (Cohen and Brawer, 1982).

With the advent of the G.I. Bill and the "open door policy" of the community colleges, the period of meritocracy was replaced by the period of egalitarianism. Access was the new "call to arms." As a result, the community colleges were confronted with the compelling challenges of providing educational environments and educational

opportunities that would meet the needs and enhance the learning of a diverse student body (Luckenbill & McCabe, 1978). This diversity included academic background, ethnicity, and socioeconomic status. The new student had arrived en masse. Persons who previously were denied access to institutions of higher learning because of their academic achievement now had an opportunity to enter such institutions. These academically underprepared students were in need of remediation to meet with success in their endeavors at higher education, lest the "open door" be turned into a "revolving" one. Too, these new students used the community college for their own purposes, dropping in and out at will. In addition, the majority of these students attended part-time and were not necessarily interested in attaining a degree or even in receiving any kind of certification. To this end, community services, including continuing education courses, has emerged as a fourth major curricular component, particularly in the noncredit area (Atwell, Vaughan, & Sullins, 1982). Obviously, the nature of the college and its characteristics have undergone vast changes and are still in a state of flux. To keep up with and to reflect these changes, the curriculum also has continued to evolve, becoming more comprehensive in its program and course offerings.

Somehow, the community college with its comprehensive curriculum not only has endured, it has served as the gateway to higher education for the masses. It was this concern for universal educational opportunity--the democratization of education--that proved to be the

motivating force behind the push for a comprehensive curriculum (Bogue, 1950; Thornton, 1972). It was that, at least, and the successive need for manpower in a technologically advancing society propelled by the belief that education could fulfill this need. It is the comprehensive curriculum that allows the community college to realize its mission by offering programs and courses that are diverse enough to serve the needs and demands of its heterogeneous student body. Today, the concept of a comprehensive curriculum has become such an integral part of the community college movement, it is difficult to imagine one without the other.

The Statement of the Problem

Equal opportunity has been heralded as the philosophical underpinning upon which the American democracy was established (Bogue, 1950; Eaton, 1981; Monroe, 1972; Task Force on Small/Rural Community Colleges, 1976; 1977; Thornton, 1972; Vaughan, 1982). It follows, then, that equality of educational opportunity should comprise the "essential" ingredient of the community college mission supplying it with its raison d'etre and supporting the open admissions policy as one of its most basic values. Implicit in the notion of educational opportunity is the commitment to offer a broad spectrum of programs and courses for all members of the community, responding both to their needs and interests. Another name commonly employed to refer to this diversity is comprehensiveness (Hyde, 1982;

Vaughan, 1984).

If equal educational opportunity in the guise of a comprehensive curriculum is considered to be an essential ingredient necessary for community colleges in general to carry out their mission, it becomes an indispensable one for the small/rural community colleges. Not only do small/rural community colleges provide educational opportunity for their service area, they frequently are the sole purveyors of such opportunity "within a 90 to 100 mile radius of their campuses" (Eaton, 1981, p. 15). Thus, operating in an area devoid of other educational alternatives, it becomes all the more critical for the small/rural community colleges to offer comprehensive programs and courses to ensure a modicum of equality of educational opportunity.

However, the ability of small/rural colleges to deliver equal educational opportunity is beset with problems and challenges. Part of the problem is inherent in the nature of small educational entities that exist in sparsely populated and geographically isolated areas. They are expected to do more with less; fewer faculty, fewer students, fewer resources, less exposure and visibility in the media and state legislature, and less ability to compete for grants and other funds. In other words, it is more costly to provide educational opportunity per capita to students in small/rural community colleges than in their larger counterparts (Eaton, 1981, p. 16; TenHoeve, Jr., 1981, p. 20). Compounding the problem of institutional size, geographic location and population sparsity are the plight of the economy and the conservative

mood of the electorate. This is an era fraught with diminishing resources, constant vying for limited funds, an emphasis on cost cutting and tax reductions and the need for educational policy-makers to demonstrate fiscal responsibility, both figuratively and concretely, to their taxpaying constituencies, with their ever-increasing demands for accountability. To this end,

> Small/rural community colleges may be the most threatened of all institutions. In fact, rumblings in a number of states hint and sometimes threaten small community colleges with reduction of mission and elimination of programs, merger with other institutions, or even with closing the doors.
>
> Small/rural community colleges seem to be particularly vulnerable to efforts by legislators, governors, and those who staff agencies to show evidence of fiscal responsibility and accountability to the taxpayers. Small/rural colleges can be "toyed with" because fewer students will be affected, fewer faculty will be dismissed, and fewer facilities will be vacated when drastic measures are taken....Despite little real impact on a state's budget, drastic action at the small/rural college may be viewed by the public as sufficient evidence of efficiency and responsibility in government. (Sullins, 1981, pp. 27-8).

The indispensable ingredient may, in fact, become all too dispensable. The very mission that it was to carry out also may become indefensible and therefore dispensable as well. The open door may begin to close.

It is no accident that the AACJC (American Association of Community/Junior Colleges) Task Force on the Small/Rural Community College unanimously approved on two separate occasions, once in 1976 and again in 1977, the following position:

> One of the fundamental philosphical tenets upon which the American democracy is founded is that of equal opportunity. Our political philosophy, economic system, and social institutions are predicated on this basic value. Throughout the two hundred years of the nation's history, the meaning of equal opportunity has been expanded by legal and extralegal changes. Because equality of educational opportunity is necessary for individuals to attain their goals in life, it is incumbent upon a democratic society to place opportunities for postsecondary education within the reach of all regardless of socioeconomic status, ethnicity, or other circumstances--including the density of population in a geographic area....
>
> The Commission holds that there should be equal educational opportunity for those living in less populated areas, and that the rural community college is a vital component. The Commission declared that it is in the public interest that rural community colleges maintain comprehensive curricula and programs of services, even though these may cost more per person served.
>
> The Commission adopted the following principle and recommends that it be promulgated broadly to public boards and agencies, legislatures, and the Congress, and in various AACJC publications. The principle is stated:
>
> Equal educational opportunity requires that public policy-making bodies provide for comprehensiveness in curriculum and in services in all community college systems regardless of size or geographic location. (p.7).

Apparently, neither the mission of the community college nor the comprehensive curriculum which is its driving force is guaranteed a place of permanence. Both may be reshaped by financial constraints and fiscal conservation (Breneman & Nelson, 1981; Richardson & Leslie, 1980). Therefore, to deal effectively with the issues, problems, and challenges raised above, the following problem statement will be addressed:

> It is highly desirable to create an instrument to measure curricular comprehensiveness systematically and objectively, one that is reflective of a consensus of working experts in the field.

Such an undertaking and its appropriate application may help to thwart the reshaping of the community college mission and its curriculum.

Purpose Statement

The purpose of this study is to design a systematic and an objective way to measure credit curricular comprehensiveness in small rural/community colleges and to validate the instrument of measurement. To accomplish this task, an index of comprehensiveness was developed based on o/t (occupational/technical) program data from the HEGIS (Higher Education General Information Survey) tapes and transfer and developmental/remedial program data from responses to a nationwide questionnaire sent to small rural community colleges. This index enabled all the members of the study's population to be ranked with respect to comprehensiveness.

To validate this instrument, a jury of experts was employed. Two documents were prepared describing the transfer programs and courses, the o/t programs, and the developmental/remedial offerings at each of eleven colleges statistically selected from the research population. One document described the offerings in narrative form while the other consisted of a summary chart. All documents then were submitted to the AACJC's Commission on Small/Rural

Community Colleges--the jury--requesting that each member individually rank the colleges from the most to the least with respect to comprehensiveness.

Research Questions

To respond to the problem statement, the following research questions were addressed:

1. Is it possible to measure curricular comprehensiveness?
2. Is it possible to validate the instrument of measurement of curricular comprehensiveness?

Need for the Study

The concept of a comprehensive curriculum is inexorably intertwined with the mission of the community college. It is, in fact, a hallmark of the community college movement. However, neither the literature nor the enabling legislation (as revealed by a review of such legislation from forty states) explicitly define comprehensiveness. Most discussions and references to comprehensiveness merely suggest that it should include at least four components: transfer or college parallel courses, vocational and technical courses, adult education or community services courses, and remedial/developmental courses. Rarely is there a prescription denoting, explicitly, how much of each component should be offered or any sense of priority. Perhaps this neglect is intentional to afford the institutions needed flexibility. Nevertheless, in so doing, a

very broad interpretation of comprehensiveness is difficult, at best, and impossible, at worst. Obviously, a more definitive, but not rigid, standard for measuring comprehensiveness is needed, one that will provide institutions with the parameters to determine the degree of comprehensiveness necessary to sustain themselves and to fulfill their mission. This study provided such an index. Further, and more important, an investigation was undertaken to determine the validity of the index. In particular, it combined a juridical approach with the Q sort technique.

Definitions

Cluster. The term "cluster" refers to one of the six areas of curricular concentration identified in the HEGIS tape for Degrees Awarded (1980-81). The six cluster designations are: data processing technologies, health and paramedical technologies, mechanical and engineering technologies, natural science technologies, business and commerce technologies, and public service related technologies.

Comprehensive Community Colleges. "Comprehensive community colleges" refers to those institutions which:

> offer meaningful options for college-age students and adults among a variety of educational programs, including transfer education, general education, remedial courses, occupational programs, continuing education for adults, and cultural programs designed to enrich the community environment. Within this general framework there should be opportunities for varying patterns of development...(The Carnegie Commission on Higher Education, 1970, p. 17).

Community services, the most recent of the community college functions, also should be included.

Comprehensive missions. "Comprehensive missions" refer to those missions and philosophies designed to support the functions of a comprehensive community college as described above.

Credit curricular comprehensiveness. "Credit curricular comprehensiveness" refers to both the breadth and depth of curricular offerings (Reynolds, 1969). While recognizing the importance of both of these aspects of curricular comprehensiveness, greater emphasis was placed on the breadth or diversity of course offerings since the community college must serve the educational needs and demands of a diverse clientele. Thus, a lateral configuration was considered more comprehensive than one in depth. In other words, educational opportunity will be served better through a heterogeneity of course offerings. (Carnegie Commission on Higher Education, 1970 Fields, 1962; Medsker and Tillery, 1971; Reynolds, 1969).

Curricular Offerings. The term "curricular offerings," as used to describe the index of curricular comprehensiveness, refers to an organized pattern of instruction within a discipline as a series of courses which lead to degrees, certificates, and other two-year formal awards.

Degree. The term "degree" refers to the associate degree.

Index of credit curricular comprehensiveness. The "index of credit curricular comprehensiveness" is described at length in the

chapter on Research Design and Methodology.

Jury. The "jury" consisted of a body of persons chosen because of their qualifications or expertise (Black, 1979, p. 157). This jury also is known as a blue-ribbon jury, a special jury, and a struck jury (Encyclopaedia Britannica, 1984, p. 100).

Nondegree. The term "nondegree" refers to all formal awards based on less than four years of work beyond high school exclusive of the associate degee.

Q methodology, Q technique, and Q sorts. "Q methodology" refers to a general term,

> used by William Stephenson to characterize a set of philosophical, psychological, statistical and psychometric ideas oriented to research on the individual. Q technique is a set of procedures used to implement "Q methodology" (Kerlinger, 1973, p. 582).

Primarily, the "Q technique" is a complex way to rank order objects and then to assign numerals to subsets of the objects for statisitcal purposes. In particular, it focuses on the sorting of decks of cards referred to a Q sorts and in the correlation among the responses of various persons to the "Q sorts" (Kerlinger, 1973, p. 582; Stephenson, 1953, pp. 17-19).

Small/rural community colleges. "Small/rural community colleges" are defined as all public two-year colleges located within any one of the fifty states, with headcount enrollments of 2,499 and under, that have identified themselves as rural in a survey conducted in

1982 by the AACJC, that offer the Associate in Arts or the Associate in Science Degrees, and that provide remedial education in reading, writing, and mathematics.

Delimitations

The following comprise the delimitations of this study:

- Only those community colleges that met this study's definition of small, rural, control, and curricular comprehensiveness were included (approximately 30 percent of all community colleges).
- The study focused only on credit curricular offerings thereby narrowing the scope of curricular comprehensiveness. In particular, the non-credit curriculum and its highly significant contribution to curricular comprehensiveness were neglected.
- The study was limited to community colleges located in any one of the states of the United States thus further reducing the potential size of the population.

Assumptions and Limitations

Assumptions. The following assumptions were essential to this study:

- All other things being equal, particularly with respect to the availability of resources, a major underlying assumption included in this study was the notion that more comprehensiveness is better than less comprehensiveness. In other words, a wide range of educational opportunities is more beneficial than a more limited one. Furthermore, curricular

comprehensiveness or comprehensiveness of program offerings was considered to be an important measure of an institution's commitment to provide for the educational needs and demands of an increasingly diverse clientele. This overall assumption is based on Bowen's (1977) moral imperative which recognizes that "each person should have the opportunity, and obligation as well, to develop fully his or her unique personal powers" (p. 453). For Bowen, then, the case for the extension of education is the moral one of human development. It is not--better paying jobs or national economic growth, not even better citizenship. This assumption is based as well on Koos' (1925) understanding that democratization of post-secondary education is a major attribute of the junior college. It also acknowledges the necessity to elaborate further this egalitarian principle of extending educational opportunity through a multiplicity of program offerings (The Truman Commission, 1947; Gleazer, 1968; The Carnegie Commission on Higher Education, 1970; and Medsker & Tillery, 1979) to serve a heterogeneous student body and to fulfill its comprehensive mission.

- Curricular comprehensiveness cannot be rigidly defined. It is a relative term dependent upon the needs and demands of the college service area. Curricular comprehensiveness is a matter of degree and should be considered as a continuum. No community college will achieve the zenith in comprehensiveness. As

Reynolds (1969) noted, "It is impossible for even the most comprehensive curriculums to attain the ultimate in comprehensiveness" (p. 146).

- Often there is a difference between the "needs" and the "demands" of the community. In this connection, the term "community" is not restricted primarily to those involved in the industrial base of the service area; it includes all the adult citizens of the service community. As such, the needs of the citizenry may be different and/or more comprehensive than those involved primarily in the industrial area whose demands, of necessity, may suffer from tunnel vision. It is up to the college to assume a "leadership position" by anticipating these needs and offering courses to fulfill them. Administration of an annual needs assessment survey or another appropriate procedure may help to elicit the latter.
- A comprehensive curriculum is the primary force behind mission attainment of comprehensive community colleges.
- It is possible to measure the degree of comprehensiveness of credit curricula.
- The index of comprehensiveness is not a prescription of comprehensiveness, only a measure of it.
- It is possible for small/rural community colleges to provide comprehensive credit curricula as defined in this study.
- Differences between large and small community colleges are

quantitative rather than qualitative in nature (Cohen, 1978; Gianini, 1979).

- The members of the AACJC Commission on Small/Rural Community Colleges constitute an appropriate panel of individuals to serve as members of a jury to validate an instrument to measure credit curricular comprehensiveness in small/rural community colleges.

Limitations. The following comprise the limitations of this study:

- The Higher Education General Information Survey (HEGIS) data are collected annually in the Fall. However, there is a delay in time between the collection and the dissemination of the data. The dissemination dates for computer tapes, such as those used in this study, are released six to twelve months after the completion deadline (Andrew, Fortune & McCluskey, 1980). Therefore, the latest and most complete HEGIS data available at the beginning of this study were for 1980-81.
- The data collection procedures and methods of analysis are constrained by the following limitations in the HEGIS Taxonomy of Instructional Program in Higher Education (Malitz, 1981):
  1. The need to update the taxonomy to accommodate new instructional programs that have gained new significance.
  2. The lack of program definitions or descriptors which reduces both the reliability and validity of the HEGIS data and creates a problem in attaining interinstitutional

comparability.

3. The overrepresentation of technological curricula and the underrepresentation of occupational curricula.
4. The lack of remedial/developmental programs and adult education programs as well as any other nontraditional programs. Other sources must be consulted to ascertain information on this data.

- The results of the survey conducted in 1982 by the AACJC were used to determine which community colleges should be classified as rural. This procedure had some limitations. Using location as a usual standard of determination, it is difficult to justify why some institutions were considered to be rural while others were not.
- The 160 responding institutions to the national survey questionnaire developed by Atwell and Sullins do not differ materially from the 88 nonresponding institutions. The nature of the raw data did not permit a comparison between the responding and nonresponding institutions. The responding institutions represented a 65% response rate and comprised the study's population.
- The index of credit curricular comprehensiveness is based on an arbitrary weighting system developed by the researcher and has not been compared to other less empirical definitions of comprehensiveness.

Organization of the Study

This study consists of five chapters. Chapter II provides a comprehensive review of the literature. One segment of the chapter is concerned with comprehensiveness, its significance and historical relationship to the community college movement. The remaining segment demonstrates the appropriateness of 1) employing a panel of experts or jury to validate the instrument to measure curricular comprehensiveness, and 2) utilizing the Q technique by the members of the jury to make their judgment.

The research design, the sampling procedure, the instrumentation, the data collection procedures, and the methods of analyses are presented in Chapter III.

The analyses of the data are presented in Chapter IV.

Finally, a summary of the research, conclusions, implications, and recommendations for further research as well as recommendations for potential application for educational practice and/or policy based upon the results of this research are presented in Chapter V.

A bibliography and appendices also are included in the study.

Chapter II

Review of the Literature

Chapter II provides a comprehensive review of the literature. One segment of the chapter considers comprehensiveness, its significance and historical relationship to the community college movement. In so doing, the critical importance of comprehensiveness in general and of curricular comprehensiveness in particular are demonstrated and the need to develop an instrument to measure curricular comprehensiveness is justified. The remaining segment demonstrates the appropriateness of a) employing a panel of experts or blue-ribbon jury to validate the instrument to measure curricular comprehensiveness, and b) utlizing the Q technique by the members of the jury to make their judgments.

Comprehensiveness, its evolution and significance

As attested to in myriad textbooks, journal articles, etc., including literature of the underground type, the concept of comprehensiveness, like the community college movement with which it is allied so closely, has evolved from 1901 to the present. Many factors have influenced this evolution. However, it is convenient to discuss this issue by considering it within the four periods or, as Deegan and Tillery (1985) prefer, "generations," into which the evolution of the community college movement is divided. These divisions are "used not as an absolute but rather as a way to denote

periods or stages during which major events occurred that helped shape and propel the community college movement" (Deegan & Tillery, 1985, p. 1), including their mission development, clientele, and curriculum. Furthermore, in no way should it be interpreted that the community college movement has completed its evolution; it is still emerging and researchers contend that the mid-1980s denote entry into the fifth period or generation (Cross, 1985; Deegan & Tillery, 1985).

First Period. Borrowing from the divisions recognized by Deegan and Tillery (1985), the first developmental period of the community college to be discussed dates from 1900-1930 and is referred to as "Extension of High School." It was during this timeframe that the first continuously operating public junior college was established in 1901 in Joliet, Illinois. William Rainey Harper, former president of the University of Chicago is credited with greatly influencing its founding. Too, in 1896, he successfully convinced the Board of Trustees at the University of Chicago to refer to the newly created (1902) lower division at the university as a junior college (Monroe, 1972, p. 9). Most importantly, Rainey, as well as Tappan from Michigan, Folwell from Minnesota, and James from Illinois were concerned not only with unburdening the university from the need to provide lower undergraduate coursework, but with extending educational opportunity to those who otherwise would not be able to complete four years of college. At least such students, they believed, would have access to two years of college work (Williams, 1969, p. 214). As

Harper noted, "the student not really fitted by nature could stop naturally and honorably at the end of the sophomore year" (1900, p. 37). These ideas dovetailed very well indeed with the notion to offer broader and more practical postsecondary education resulting from the social demands and federal policies permeating the scene early in the century and sooner (Deegan & Tillery, 1985). This, of course, reached its greatest heights with the passage of the Morill Acts of 1862 and 1890 and the ushering in of the land grant movement which "revolutionized the curriculum of higher education through its emphasis on technology, agriculture and applied science" (Carnegie Commission, 1970, p. 9). In this connection, Cohen & Brawer (1982) commented that,

> Access for a wider range of the population was increasing as programs to teach an ever-increasing number of subjects and occupations were introduced. It was then that schools of business, forestry, journalism, and social work became widespread. People with more diverse goals led to more diverse programs; the newer programs attracted greater varieties of people. (p. 2).

All this notwithstanding, it still remains that "the primary factor in the increased demand for and expansion of higher education was the increase in completion rates from the secondary schools" (Deegan & Tillery, 1985, p. 5). To this end, Cohen pointed out that,

> Between 1910 and 1940, for those students who had entered the fifth grade eight years earlier, high school graduation rates increased from 7% to 50%. Since one of the major outcomes of schooling is the demand for more schooling, the rapidly increasing number of high school graduates forced the expansion of higher education. And, since the increased percentage of the age group seeking

> entry to college also resulted in a demand for non-traditional curricula, collegiate institutions were forced to expand their scope as well as their size. The universities could grow and diversify only up to a point; in most states, a network of junior colleges developed to provide servcices the universities could not provide. This network soon became a buffer of institutions, preparing young people for univeristy level studies or diverting them toward other pursuits. (1985, p. 1).

To meet these demands, the high schools slowly began to provide postsecondary course offerings. The first such offerings attempted to bridge the gaps in academic preparation and to increase grade point averages to permit entry into colleges. These offerings soon were followed by additional postsecondary courses. In this connection, the Caminetti Act of 1907 in California was the first state legistation to authorize high schools to offer college courses, including certain postsecondary vocational ones (Cohen & Brawer, 1982, p. 24; Deegan & Tillery, 1985, p. 6). Not surprisingly, therefore, the colleges of this first generation were extensions of high schools, with state boards of education exerting much control over their mission and curriculum. Clearly, access for students who were either underprepared or unable to leave home was a viable aspect of the mission of these junior colleges. It was recognized early on "that the high school extension colleges were serving new students to higher education" (Deegan & Tillery, 1985, pp. 6-7). To meet the needs of these "new" students, remediation was very much a function of these institutions, particularly in the areas of skill improvement in writing and mathematics (p. 7).

The universities, whose influence on the establishment of the junior college has been indicated, also exerted direct influence on the curriculum, pressing the idea that courses designed for university transfer must be "parallel" in content as well as in textbooks and in teaching. The transfer program (also known as the college-parallel or the college-preparatory program) was the first one to be offered by the community colleges and college-transfer courses were the first postgraduate courses offered by high schools (Monroe, 1972, p. 59). Thus, the transfer function (as transfer courses in the liberal arts) was very prominent in the earliest junior colleges (Cohen & Brawer, 1982, p. 286).

The state also showed interest in these emerging institutions as reflected in early legislation. Apparently, when legislatures authorized liberal arts, technical, scientific and civic courses, the foundation was set for the "comprehensive" college (Callan, 1983 in Deegan & Tillery, 1985).

Although counseling and student support services received little attention during this period, this first generation established the critical groundwork and many important traditions for future generations (Koos, 1925).

Second Period. The second developmental period or generation of the community college dates from 1930-1950 and is referred to as "The Junior College," again borrowing from Deegan and Tillery's (1985) classification. While the first generation's development may be

termed unpretentious and wavering, it still witnessed the establishment of 259 public two-year colleges. However, the depression years took their toll on the development of junior colleges in two significant ways. First, in the face of increasing enrollments, state funding was decreased. Second, there was almost a cessation of activity surrounding the establishment of new institutions. Thus, the close of this period witnessed the creation of only 40 new public two-year colleges for a total of 299 (Deegan & Tillery, 1985; Monroe 1972).

In 1931, Eells' (1931) book, The Junior College successfully set the tone followed by local communities and states for the creation of new colleges and their missions. Also during this period various segments of higher education engaged in a competition to respond to the increasing demands by mature adults, consisting primarily of returning veterans as well as high school graduates, for postsecondary education. This led to the creation of state commissions on higher education. These commissions played a major role in shaping the development of junior colleges vis-a-vis other institutions of higher learning, including mission clarification. One of these commissions (in California) stated as social policy the goals articulated by Eells. In effect, the commision affirmed, for the first time, the goal of equal opportunity for both mature adults and younger clients in the realm of postsecondary education (Strayer, 1948 in Deegan & Tillery, 1985, p. 9).

> Now the mission which became doctrine for the public two-year colleges, was defined as: 1) terminal education, 2) general education, 3) transfer and career orientation and guidance, 4) lower-division preparations for university transfer, 5) adult education, and 6) removal of matriculation deficiencies. It must be noted, however, that not only did the language and definition of these objectives change over time, but so did their relative priority in institutional mission and practice. (Deegan & Tillery, 1985, p. 9).

The concept of comprehensiveness was more than on the horizon; it was beginning to emerge with a fair amount of "gusto." Student services and guidance as well as general education took on new significance. The colleges also were competing with the high schools in providing vocational education, although "career education in the two-year colleges was designed to teach skills more complicated than those taught in high schools" (Cohen & Brawer, 1982, p. 16). While business and labor began to recognize the importance of the junior college forging new linkages (most of which consisted of the establishment of labor-management advisory committees for occupational and technical programs), these endeavors did not prove fruitful until the next generation. Still, growth in business courses and programs did occur and considerably more attention was given to career guidance and placement (Deegan & Tillery, 1985, p. 12). Nevertheless, the collegiate programs predominated in this second generation (Eells, 1931; Bogue, 1950). At least two-thirds of the faculty workload was in transfer education (Eells, 1941). Cohen and Brawer (1982) maintained that the academic transfer studies were designed to fulfill at least three institutional goals:

> a popularizing function, a democratizing pursuit, and a function of conducting the lower division for the universities. The popularizing activity was to have the effect of advertising higher education, showing what it could do for the individual, encouraging people to attend. The democratizing function was realized as the community colleges became the point of first access...(p. 15).

Another influence that occurred later in the second generation was increasing federal support. It was an influence that strongly underscored the need for comprehensiveness through the expansion of access to educational opportunity "for all persons, to the maximum of their individual abilities and without regard to economic status, race, creed, color, sex, national origin, or ancestry..." (President's Commission on Higher Education, 1947, p. 7). Moreover, this was considered to be a major goal of American democracy where "only an informed, thoughtful, tolerant people can maintain and develop a free society" (President's Commision on Higher Education, 1947, p. 7). Such were the statements of President Truman's Commission on Higher Education (1946-1947). It was the commission's belief that half the college-aged population from eighteen to twenty-one could complete successfully a minimum of two years of college work. To this end, the commission recommended the development of tuition-free community colleges, in other words, extending the public school to grade fourteen and offering a diversity of courses and programs.

Thus, with the advent of the G.I. Bill after World War II, coupled with the democratization of access and opportunity, the

demystification of postsecondary education began and the door to higher education swung open (Cohen & Brawer, 1982). The people's colleges at last were at hand, as reflected in their mission with the beginning of more comprehensive programming and attention to student services (largely because of the needs of returning veterans and the high rate of high school graduates). The curriculum also was becoming increasingly comprehensive as indicated, in particular, by expanded vocational preparation with the development of technical and paraprofessional programs and a more systematic outlook towards remediation. The curriculum, in fact, made possible "another opportunity" for those clientele who were underprepared (Deegan & Tillery, 1985, p. 27). Undeniably, however, the transfer courses in the liberal arts continued to dominate the curricular offerings. Such were the prevailing conditions at the end of the second period.

Third Period. The third developmental period to be discussed, according to the divisions of Deegan and Tillery (1985), dates from 1950-1970 and is referred to as "The Community College." It was a generation of unbridled growth in enrollment, in the establishment of new institutions and not surprisingly, financial support (Jencks & Riesman, 1968; Medsker & Tillery, 1971). Although local communities were responsible in large measure for this growth, much of its impetus came from the federal government's recognition of the community college as the most appropriate institution to provide "a low-cost tuition-free, broad-and-flexible curriculum type of college education

for the majority of youth" (Monroe, 1972, p. 15). In this connection, almost 10 years after the Truman Commission's report, President Eisenhower's Committee on Education Beyond the High School, 1955-1956, articulated essentially the same views concerning the role of the community college. The report of the commission reaffirmed that,

> Communities...faced with an impending shortage of higher education capacity will do well to consider new two-year community colleges as part of the solution. Experience in a number of areas has demonstrated that with carefully planned facilities and programs, community colleges can be highly effective in affording readily available opportunities for excellent education beyond the high school. (1957, p. 12).

Further evidence that the federal government acknowleged the community colleges as a viable and legitimate sector of higher education came in the form of federal aid and subsidies. For example, the Vocational Education Act of 1963, and its subsequent amendments, did nothing short of catapulting vocational education to the center stage of the community college curricular scene (Harris & Grede, 1977). This was an accomplishment that was unachievable by staunch supporters of vocational education in previous generations. Their attempts were thwarted constantly by tradition and philosophical opposition. The Vocational Education Act of 1963 provided 20 percent of federal funds earmarked for vocational education to go to community colleges. The issue, then, no longer was whether to have occupational courses; rather it centered on what programs and how many would be offered (Monroe, 1972, p. 93). Although previous federal funds had been

earmarked for community colleges, it was for course offerings less than postsecondary grade (Eells, 1941a). By 1968, the amount of federal funds scheduled for vocational education at community colleges rose to 25 percent and an additional 15 percent was scheduled to support education for the disadvantaged, the major portion of which was to go to the community colleges. All this was provided for by the Vocational Education Act of 1968. Eventually, enrollment in voational/occupational courses surpassed enrollment in collegiate courses.

Another example of federal interest in and recognition of the significance of the community college system was revealed in "a statement in the Higher Education Act of 1968 to the effect that the President shall submit to Congress proposals for making available postsecondary education to all who qualify and seek it" (Monroe, 1972, p. 17). The Higher Education Amendments of 1972 fueled the trend towards state control "which led to the creation of commissions to coordinate higher education in each state with boards responsible for community colleges only" (Cohen & Brawer, 1982, p. 101). These Amendments, in conjunction with other state initiatives, appeared to compel community colleges "to relate more closely with other higher education institutions and to find themselves constantly coopted by those interests" (Martorana & Kuhns, 1985, p. 235). In effect, the community colleges now were disconnected from the public schools and forced to exist in the state arena of higher education. The 1972

Amendments also broadened the role of federally funded direct student financial aid in support of higher education and at the same time discontinued such aid directly to the institutions. Furthermore,

> the amendments included the new concept of "entitlement," which is intended to meet the Truman Commission's goal of removing financial barriers to entering post-high school education. The principal instrument of entitlement is the Basic Educational Opportunity Grant available to every financially needy high school graduate who is accepted by any public or private postsecondary education institution. (Delworth, Hanson, & Associates, 1980, p. 11).

This certainly was a generation when an egalitarian philosophy reigned supreme, replacing the former philosophy of meritocracy. Educational opportunity in the form of "access" to a diversity of course offerings to accommodate a heterogeneous clientele was paramount. After all, the "open door" was "wide open." Everyone felt justified in attempting to complete at least two years of college. People from all walks of life yearned for a piece, or at least a taste, of the educational pie (Zwerling, 1976), not so much for a quality education but for the credentialing it provided (McCabe, 1981). Postsecondary education, it was believed, was the gateway to upward mobility and the best way to solve the problems confronting the nation. Higher education would fill the needed gaps in science, technology, space, and manpower (Luckenbill & McCabe, 1978). It would ensure that "democracy" and its values would be strengthened. Weren't these the people's colleges or democracy's colleges? Potential clients came by the droves. They were all welcomed: the

disenfranchised, the underrepresented, the underprepared, the mature adult, the part-timer; in short, the "new" student. The "community" college responded to their needs with a) a mission that provided the four "essential" ingredients of a "comprehensive" mission namely, the transfer function, the vocational/technical educational function, the remediation function, and the community services function; b) a curriculum that offered heterogeneous programs and course offerings; and c) a concern for underprepared students demonstrated by stronger efforts in remediation and the professionalization of student services and counseling (Deegan & Tillery, 1985; Delworth, Hanson, & Associates, 1980).

Despite the fact that this period was recognized as a "boom" generation in the evolution of the community college movement, it was not without its detractors. Except for Clark's (1960) perception of the community college's covert function of "cooling out" or "tracking" students whose goals are viewed as unrealistic when compared to their previous record and abilities, the critics of this particular generation revealed an elitist point of view. It is a case against the education of the masses, or universal education. They concluded that community colleges, in their attempt to be all things to all people by serving too many functions wound up instead as second-rate imitations of four-year institutions (Devall, 1968; Jennings, 1970; Jencks & Riesman, 1968; Keats, 1965; Lynes, 1966).

The above critics notwithstanding, the community college movement

of this generation witnessed unparalleled growth in all areas. Most importantly from the viewpoint articulated in this study, all the ingredients for mission and curricular comprehensiveness were in place and educational opportunity in the form of a lateral configuration of programs and course offerings to better serve their "new" and "diverse" clientele also were set. Monroe (1972) seems to have summed up the feelings abounding in this generation concerning a comprehensive curriculum in the following remarks:

> A comprehensive curriculum becomes a challenge to the creative powers of the community-college staff to devise both new courses and new teaching techniques to meet the needs of a diverse student body. Although the modern community-college curriculum includes a wide array of courses in liberal arts, occupational fields, adult and continuing education, general education, remedial education, and preprofessional education, no college has yet exhausted the possibilities of providing meaningful and relevant learning experiences for its ever-widening range of student interests and abilities. (p. 26).
>
> The basic philosophy of the community college movement is found in the recognition of the fact that the community college is the logical and natural outcome of a long history in which the opportunities for increasingly more education, even universal education at public expense, have been vastly extended. Opportunities for universal education beyond high school can be realized only through a comprehensive curriculum, an open-door policy of admissions, and a community-oriented college in all its aspects and practices. (p. 32).

Suffice it to say that comprehensiveness was recognized as part of the community college concept and, as will be seen in the next generation, part of its definition. It is, in fact, an essential part of mission attainment.

Fourth Period. The fourth developmental period of the community college dates from 1970 to the mid-1980s and is referred to as "The Comprehensive Community College," according to Deegan & Tillery (1985). Although much of the "hype" connected with the last generation spilled over to the beginning of this one, "the end of the bull market" (Schrag, 1969 in Monroe, 1972, p. 377) in higher education was at hand and by 1971, the "boom" was over (Cross, 1981a). Certainly by 1970 the financial support so easily garnered previously and public faith in education were on the wane (Ravitch, 1978). Intensifying the public's skepticism further were the charges leveled by the social critics (Karabel, 1972; Pincus, 1980; Zwerling, 1976) asserting, in effect, that community colleges were engaged in a covert plot to ensure the perpetuation of the current socioeconomic class structure. This was accomplished, they contended, by a) structuring schools to reflect middle-class characteristics and values that tended to cause students from the lower classes to drop out or b) tracking or counseling them into programs that would preclude their entry into high level employment. In this way, the lower classes were denied access to educational opportunity for upward social and financial mobility as well as from moving (en masse) from one class to another. Thus, the community colleges were struck at the core of their national mission. However, Cohen and Brawer (1982) countered that the arguments proffered by the social critics were flawed because "they have attempted to shift the meaning of educational equality from

individual to group mobility" (p. 352). To this end, Cohen and Brawer pointed out that neither community colleges nor any other institution of learning "can break down class distinctions. They cannot move entire ethnic groups from one social stratum to another. They cannot ensure the equal distribution of educational results" (1982, p. 353).

Unlike the preceding "golden generation," this generation witnessed a period of financial retrenchment (Breneman & Nelson, 1981; Richardson & Leslie, 1980) and public disenchantment with the value of postsecondary education. A diploma was no longer highly valued. This, then, was a period characterized by doing more with less (Atwell, 1981), a conservative electorate, taxpayers' revolts (Lombardi, 1979), accountability, increasing state legislative interest (Martorana & Broomall, 1982; Martorana & Corbett, 1983; Martorana & Smutz, 1980), less federal support and increasing state supervision (Alfred, 1983; Alfred & Smydra, 1985; Folger, 1980; Martorana & Kuhns, 1985). Education was no longer a top priority in a nation beset by a recession and a war in Vietnam that almost divided the citizenry into two camps. Like all other institutions in the state arena, community colleges also had to compete for a piece of the financial pie--state funding. Furthermore, there was a decline in the number of high school graduates which precipitated interinstitutional competition for the diminishing pool of so-called college-age students (Wattenbarger, 1985), as well as for the "new" students (Cross,

1981b; Scott, 1980; Smallwood, 1980; Tough, 1981; Warren, 1985; Zwerling, 1980). Compounding this predicament was the recent competition from deliverers of education outside the usual domain of postsecondary institutions. This situation was particularly acute since most community colleges are funded according to the number of FTEs (full-time equivalent) they can produce. Institutions of higher education found themselves engaged in the numbers game. Community colleges made every effort "to seek, recruit, enroll and retain every possible student in the community" (Roueche, Baker & Brownell, 1971, p. 11). As a result of this competition for the same constiuencies, much interinstitutional mission-muddling became apparent, with the four-year colleges now, of necessity, actively pursuing the remedial function. Consumerism prevailed. There was something for everyone: "mature adults, reentry women, the underrepresented, career renewers, reverse transfers, on-job trainees, and joint high school enrollees" (Deegan & Tillery, 1985, p. 27).

Curricular changes were also on the horizon. Although the transfer and occupational programs dominated the curricular offerings, there was a large upsurge in the growth of noncredit and community service programs. At the same time, there was a decrease in enrollments in the liberal arts/humanities. All this was accompanied by a search for a more pointed definition of remediation and the realization that "learner outcomes" would be among the new and most powerful educational buzz word (Deegan & Tillery, 1985, p. 27;

Ewell, 1984; 1985). Too, during this period, markets became more extensive via courses and programs considered to be nontraditional with respect to constituency, location, and delivery system. These in turn, were influenced largely by the particular qualities exemplified in each service area. They also were defined largely by special groups of clientele consisting mainly of the underrepresented. The assignment of credit or noncredit designations to these courses varied from college to college. Deegan & Tillery (1985) viewed these activities as a means "to maintain enrollments in a period of declining numbers of college-aged youth" and "as extensions of earlier community service rather than as responses to the call for a new mission for community colleges" (p. 20).

Nevertheless, it was the community college mission and its very essence, the comprehensive curriculum, that were in jeopardy at this time. This concern, basically, was a consequence of fiscal stringency and a growing suspicion on the part of state legislators that community colleges were not delivering a "quality" education. Education for the masses or educational opportunity for all was called into question. In so doing, "access," the "call to arms" in the previous generation also was being called into question as was the philosophical base of the comprehensive community college. Was the "wide open" door beginning to close (Richardson & Rhodes, 1985)? In short, who should be educated and who should pay for their education? Was this the beginning of the reshaping of the mission,

its priorities, and program balance? Breneman and Nelson (1981) suggest that community colleges no longer will be able to be all things to all people, that, in fact, they will have to reexamine their priorities and emphases. Ultimately, they conclude, the mission will be shaped by finances; and finances, they predict, will not support a comprehensive mission.

> The tension between the mission and finance of community colleges reflects many of the fundamental problems of today's economy: the facts of scarcity, the need for trade off, the limits of government, the costs of inefficiencies, and the conflicts between the haves and have-nots when the economic pie is not growing. (Breneman & Nelson, 1981, p. 39).

Deegan and Tillery (1985) charge that comprehensiveness of community college programs have been misunderstood. They explain that "comprehensiveness of programs and services mean more than a potpourri of courses and services" (p.20). If anything, they claim, "the comprehensive programs must be rationally planned, coordinated and renewed" (p. 20). To this end, they note that "substantial efforts were being made to (1) assess student readiness to learn; (2) guide students in course and program selection; and (3) measure learning outcomes" (p. 20). Once more they remind us that "comprehensive programs and services make it possible to design individual programs for the diverse students in contemporary community colleges" (p. 20).

In any event, the close of 1985 found a significant effort dedicated to the clarification (unmuddling) of the mission of the

community college in light of declining resources, demographic changes (Hodgkinson, 1985), and the roles and missions of other institutions of higher learning.

Fifth Period. The fifth period of the evolution of the community college movement is now emerging. According to the delineation of Deegan and Tillery (1985), it dates from the mid-1980s to the mid-1990s and is referred to merely as "The Fifth Generation." A more conclusive or definitive title might be too presumptious at this time. Trying to predict the future configuration of community colleges will not be an easy task. Apparently, "more of the same" issues and problems that confronted the community colleges in the previous generation are in store for them in this generation:

> No end is in sight for fiscal stringency in any domain of public affairs. Institutions, if they are to survive, will have to be highly productive and publicly accountable. The pace and scope of social and technological change is so rapid and profound that we do not yet know how, where, or what people ought to learn. Finally, the colleges will be competing and/or linking with both new and traditional providers of education who may have or think they have answers to these questions. (Deegan & Tillery, 1985, p. 29).

In consultation with futurists as well as leaders from a number of constituencies in the community colleges, Deegan and Tillery (1985, pp. 29-30) identified six major trends that emerge for the fifth generation:

- The first trend suggests that increasingly, adults will have

need for recurring education in the form of "occupational retraining, academic remediation, and lifelong learning" (p. 29). To be competitive in a field beset with purveyors of such education, the community colleges will have "to offer cost-effective programs falling within their mission and with verifiable learner outcome" (p. 29).

- The second trend suggests that community colleges will have to tailor their programs and services to the needs of their service areas since "regional and community variations in demography, economics, and occupational characteristics will become even more pronounced" (p. 29).
- The third trend suggests that since "new information and learning technologies will change why, how, and where people learn" (p. 30), purveyors of education outside the traditional institutions will increase. Again, to maintain their competitive edge, community colleges will have to a) redesign their curricula and their method of instruction, b) measure student learning outcomes, c) engage in more effective activities for the assessment and placement of entering students, and d) train faculty in these new learning and instructional technologies.
- The fourth trend suggests that through "good institutional planning, effective management, and clear evidence of achieving college objectives" (p.30), community colleges will be able to

compete more effectively with other social institutions for public and private resources.

- The fifth trend suggests that the ability to provide high quality education will be hindered by aging equipment and facilities. To alleviate this situation, community colleges will have to participate in regional cooperation with other educational institutions and high technology industries.
- The sixth trend suggests that even modest opportunities "to employ younger and differently educated faculty and managers" (p. 30) will be thwarted as a result of the continuing rise in the mean age of such personnel. Consequently, staff development and employment practices will have to be pursued with increasing vigor.

Deegan and Tillery conclude on an upbeat, almost utopian, note. They believe that the community colleges will cope successfully with all these challenges since "their physical plants are essentially in place; their faculties and managers are flexible and responsive to social change; their leaders have political sensibilities and skills in building consensus and governance tensions are more a manifestation of vitality than of instability" (1985, p. 31).

Although all the above-mentioned trends and conclusions fall within the realm of conjecture or an educated guess, one thing is certain, mission shaping and curricular comprehensiveness will continue to occupy the limelight in this generation. In this

connection, Cross (1985) states that the mission debate will continue until colleges are willing to articulate their goals more conclusively; again, not an easy task. Recognizing that it was easier to define the purpose and mission of community colleges in the third generation, she now inquired,

> Once the doors have been opened, however, and those previously unserved students are in attendance, what is the goal? Is it, for example, to retain students until they have completed some defined set of learning experiences that constitutes a "program" of study? Or is it to provide them with whatever educational experiences seem to serve their needs at the time? How important is retention, and what constitutes "reasonable progress" in a community college? Are community colleges failing in their task when up to 40 percent of the students in California community colleges complete fewer than two courses in two years...How important is the transfer function? Should community colleges be distressed that studies have shown that "not more than one in twenty enrollees completes a two-year program and transfer in the succeeding term"...Community colleges are being judged on these traditional criteria. How appropriate are they? (pp. 34-35).

Furthermore, Cross has identified five major foci that extend across the mission debate:

- the comprehensive focus which includes the five traditional programs of community colleges cited by Cohen & Brawer (1982) as, "Career Education: Preparing Students for Occupations," "Compensatory Education: Enhancing Literacy Through Remedial Studies," "Community Education: Reaching Out with Extended Services," "Collegiate Function: New Directions for the Liberal Arts," and "General Education: Developing an Integrated

Curriculum" and avoids goal setting;

- the vertical focus which emphasizes the transfer functions of the comprehensive mission and whose goal "is to push or pull students through the traditional system--from high school through community college to a baccalaureate degree" (p. 38).
- the horizontal focus which "reaches out to develop linkages with the community rather than build linkages within the formal educational establishment" and whose goal is to "become a major force for the improvement of the local community through education" (p. 40);
- the integrated focus which emphasizes developing "linkages within the college rather than to external linkages either vertically or horizontally" and whose goal is to "provide a continuing liberal arts education for lifelong learners" by placing "liberal education for the informed citizen at the hub of career, compensatory, collegiate, and community education" (p. 43); and
- the remedial focus which emphasizes assuming "residual responsibility for youth" by developing a comprehensive set of youth functions and whose goal would be identified as "full service institutions for the young" (p. 44).

While Cross admits that none of the above foci is assured of success in the fifth generation, she nonetheless points out that it is the comprehensive mission that curries most favor with community

college educators. In fact, several of the other foci are perceived "not as alternatives to the comprehensive mission but rather as priorities of or improvements needed in a given area within the comprehensive mission" (p. 36). Furthermore, those that suggest that the latter be completely or partially reshaped often are shunted to the center of heated debate and criticized severely, witness Breneman & Nelson (1981) and Gleazer (1980). The comprehensive mission draws its strength and following primarily from its "strong roots in the historical arguments for equal access to educational opportunity" (Cross, 1985, p. 37). If educational opportunity is translated to mean a broad diversity of course offerings, as Vaughan (1985) insists, then it would be extremely useful (see Chapter V for details) if community college administrators and faculty could gain some insight into the "curricular comprehensiveness temperature" of their institutions, in other words, if they could measure comprehensiveness. Development of such a means to measure comprehensiveness would allow them to evaluate the degree to which they have operationalized at least part of their college's mission and to offer concrete evidence to already skeptical, if not downright mistrustful, state legislators and members of state departments of higher education. This instrument would be especially helpful to small/rural community colleges that often are the only available access to postsecondary educational opportunity within a 90 mile radius of their campuses (Eaton, 1981, p. 15) and thus are

particularly in need of comprehensive programming and heterogeneous course offerings. It also would allow these institutions, often so vulnerable in times of retrenchment and fiscal stringency (Sullins, 1981, pp. 27-8), to have a powerful tool with which to prove their value to their service area and to allay unfounded suspicions of state legislators.

The literature reveals an absence of methods and instrumentation to measure curricular comprehensiveness. As Medsker & Tillery (1971) pointed out, there is neither a "single model nor any compelling theory or body of research to use in defining and assessing comprehensiveness" (p. 140). Therefore, development of such an instrument is an appropriate and essential undertaking, especially for small/rural community colleges. This study, based on a review of the literature, is reflective of this undertaking, an undertaking that certainly is justified in the fifth generation.

Employment of a juridical approach to validate the index of comprehensiveness

In this study, the instrument of measurement was an index of comprehensiveness constructed from occupational/technical (o/t) program data elicited from the 1980-81 Higher Education General Information Survey (HEGIS) tapes as well as from tranfer and developmental/remedial program data derived from responses to a nationwide questionnaire developed by Atwell and Sullins (1984). The index successfully enabled the 160 institutions comprising the study's

population, including the 11 institutions in the sample drawn from it, to be ranked with respect to comprehensiveness. Therefore, while it may be assumed that the accuracy or precision of the index is correct, the weighting system upon which it was predicated was developed in a more arbitrary fashion and was not compared to other less-empirical definitions of comprehensiveness. Naturally, the weighting system was reflective of the criteria used by the researcher. Both the choice of criteria and the determination of the weighting system are discussed extensively in the subsequent chapter under Data Treatment and Methods of Analysis. Suffice it to say, however, that the criteria were derived from the researcher's overriding conviction that curricular comprehensiveness, the commitment to offer a broad spectrum of programs and courses for all members of the community, is an essential ingredient necessary for community colleges to carry out their mission. As indicated in Chapter I and the preceding segment of this chapter, the importance of curricular comprehensiveness, its relation to mission attainment, and its definition in terms of a lateral configuration are supported in the literature (Atwell & Sullins, 1984; Bogue, 1950; Bowen, 1977; Eaton, 1981; Gausman, 1978; Gleazer, 1968; Hyde, 1982; Johnson, 1969; Koos, 1925; Medsker & Tillery, 1979; Monroe, 1972; Reynolds, 1969; Thornton, 1972; Vaughan, 1982, 1985). Again, the weighting system which mirrors the researcher's criteria was developed by a search of the literature dealing, for the most part, directly with curricular offerings

(including Atwell & Sullins, 1984; Beckwith, 1980a; 1980b;1980c; Cohen & Brawer, 1980; 1982; Edwards, 1980a; 1980b; 1980c; Friedlander, 1980; Friedlander & Edwards, 1980; Hill, 1980a; 1980b; Humanities, 1975; 1978a; 1978b; and Schmeltekopf, 1980), national data figures, and responses to the nationwide questionnaire referred to above.

All this notwithstanding, the question of the validity of the instrument remains. In other words, if "others" ranked the institutions in this study's sample without using the index, how closely would their rankings correlate with those of the index of comprehensiveness developed by the researcher? Put in still another way, would "others" use essentially the same or similar criteria as the researcher when developing the index of comprehensiveness and thus make similar judgments? Certainly, if the judges exhibited expertise in the field, had field experience in making such judgments, were familiar with the issues and the literature, the validity of the instrument would be enhanced appreciably by their responses. In reality, these "others" would constitute a panel of experts or blue-ribbon jury. Such a juridicial approach was employed in this study to validate the index of comprehensiveness. Here, the panel of experts or members of the blue-ribbon jury consisted of the 1985-86 members of the AACJC Commission on Small/Rural Community Colleges. This choice was based on the expertise and experience of the members as well as the positions of leadership occupied by each within the community college movement in general and the small/rural community college

movement in particular. All the members that participated were presidents of small/rural community, junior, or technical institutions representing similar colleges throughout the nation. Furthermore, the AACJC "is seen as the national voice and advocate of the philosophy and mission of community college education" (Martorana & Kuhns, 1985, p. 237). It is difficult to conceive of a group more in tune with the issues surrounding credit curricular comprehensiveness in small rural community colleges or more suitable to deal with the task of ranking the 11 institutions in this study's sample with respect to the degree of comprehensiveness.

The use of a panel of experts or a blue-ribbon jury is not new; there is precedence for its use dating back to the reign of William III of England, from 1689-1702. In the United States, the selection of blue-ribbon jury members is similar to that for an ordinary trial jury, except that the list of potential jurors is comprised exclusively of specially qualified persons. "The blue-ribbon jury is intended to overcome the problems of ordinary juries in interpreting complex technological or commercial questions" (Encyclopedia Britannica, 1984, p. 100). However, the use of a blue-ribbon jury or panel of experts to validate an instrument of measurement is of more recent origin. This method of evaluation has been used most frequently in the psychometric setting, particularly in the clinical area (Lyerly, 1973). For example, similar approaches were employed in the construction of the following rating scales:

- The Discharge Readiness Inventory (DRI) developed by Hogarty (1966) to assess the readiness for release from hospitalization of schizophrenics employed a panel of experts consisting of 62 social workers from seven state hospitals. These experts were requested to,

> ".....rate the relative importance of each item in formulating a judgment about the suitability of a chronic schizophrenic patient as a candidate for aftercare service." Each item was rated on a 9-point scale ranging from (1) "not at all important" to (9) "extremely important." After various statistical analyses of the item ratings, some items were altered and others added. (Lyerly, 1973, p. 26).

- The Hospital Adjustment Scale (HAS) developed by McReynolds and Ferguson (1953) to assess the day-to-day behavior of hospitalized psychiatric patients employed a panel of experts consisting of 16 professional judges: 10 psychiatrists, two psychologists, two psychiatric nurses and two psychiatric social workers. The experts were requested to,

> rate.....328 statements on a nine-point scale a rating of 1 was "extremely good hospital adjustment" and a rating of 9 an "extremely poor hospital adjustment.' Items on which the judge tended to disagree, or frequently marked ambiguously, were eliminated, leaving 250 statements. (Lyerly, 1973, p. 29).

- The Symptom Rating Scale (SRS) developed by Jenkins, Stauffacher and Hester (1959) to assess the presence and degree of psychopathology in predominantly schizophrenic male patients in Veterans Administration hospitals employed a panel of experts

consisting of Veterans Administration clinicians.

> Tentative items were gathered from a number of sources... The scale was refined during several workshop sessions during which the participants, Veterans Administration clinicians, discussed the items, interviewed and rated a number of patients, and compared their findings. (Lyerly, 1973, p. 54).

Other rating scales that used a panel of experts either to a lesser degree than those mentioned above or solely for item construction purposes included a) The Brief Psychiatric Rating Scale (BPRS) developed by Overall and Gorham (1962) to assess the presence of 16 relatively independent symptom areas in hospitalized patients where the panel of experts consisted of 12 psychiatrists and psychologists (Lyerly, 1973, pp. 23-24) and b) Wittenborn Psychiatric Rating Scales developed by Wittenborn (1955) to measure the currently symptomatic behavior of psychiatric patients deemed important by psychiatrists where the panel of experts consisted of more than 20 Connecticut psychiatrists of different backgrounds and theoretical experiences and the Department of Psychiatry of Yale University (Lyerly, 1973, pp. 56-57). In this connection, Lyerly (1973, p. 55) also reported on an interesting study conducted by Ulman and Gurel (1962) which,

> "Concerned itself with the extent to which ratings from records would replicate symptom ratings based on interviews." the routine case reports of 120 functionally psychotic Veterans Administration patients prepared by psychiatrists at time of admission and containing accounts of presenting complaints, laboratory findings, history, etc., were read by psychologists who filled out the SRS

> without seeing the patients. Another team of psychologists independently rated the same patients from a face-to-face interview. They report "signficant" associations for most of the items of the scale. Conventional correlational indices are not reports, but it is estimated (by this writer) that for a typical item the degree of association is approximately equivalent to that indicated by a correlation coefficient of .25 to .35. (These findings are perhaps more important from a general methodological point of view than for the SRS itself.)

A more recent use of a juridical approach was employed by Missiras (personal communication, April 14, 1986) when he used a jury consisting of four information science experts to validate the assumptions in a conceptual model developed by him in his dissertation (published 1976) entitled, "A Critical Analysis of the Need to Establish, Develop, and Maintain Libraries for Parish Churches." In particular, the jury validated the sequential process to establish, develop, and maintain information centers to disseminate information.

Apparently, then, use of a panel of experts to validate an instrument of measurement is not only a sound approach, it is an appropriate one as well as attested to by a review of the literature. Furthermore, since the members of the AACJC Commission on Small/Rural Community Colleges undoubtedly qualified as a panel of experts for purposes of this study, using them to validate the index of credit curricular comprehensiveness in small/rural community colleges also clearly appears to be appropriate.

Utilization of the Q technique by members of the jury

Essentially, the Q technique is a complex way to rank order objects and then to assign numerals to subsets of the objects for statistical purposes. In particular, it focuses on the sorting of decks of cards referred to as Q sorts and in the correlation among the responses of various persons to the Q sorts (Kerlinger, 1973, p. 582; Stephenson, 1953, pp. 17-19). In this study, each member of the jury, individually, was requested, through the use of Q sorts, to place in rank order, according to their degree of credit curricular comprehensiveness, the 11 institutions in the sample. The ranking was based on the information supplied on two documents prepared for each member of the sample. The documents described the transfer programs and courses, the occupational/technical (o/t) programs, and the developmental/remedial offerings at each of the 11 institutions. One document described the offerings in narrative form while the other consisted of a summary chart. Each description was placed on a 5x8 card for a total of 22 cards. Too, each juror received a set of instructions detailing the exact procedure to be used when ranking the institutions. The instructions are appended. The instructions attempt to follow the Q technique which employs a rank-order procedure of piles or groups of objects. Basically, a set of objects consisting of phrases, single words, verbal statements, etc., is given to an individual to sort into a set of piles according to some criterion (Kerlinger, 1973, p. 583; Horst, 1966, p. 119; Guilford, 1954, p. 530).

One of the most important contributions of Q studies, as conceived by Stephenson (1953, pp. 66-85), is the testing of "theory" and the concept of building "theory" into Q sorts via structured samples of items. More specifically, the items of structured Q sorts are partitioned in one or more ways even though they are in one domain. Thus, for Stephenson, to structure a Q sort is to build a theory into it. This coincides with his basic rationale of Q which purports that "we have individuals sort the cards not so much to test the individuals as to test 'theories' that have been built into the cards" (Kerlinger, 1973, p. 588). It follows that if the "theory" is valid and if the Q sort sufficiently enunicates the theory, the statistical analyses of the sorts should show the theory's validity. Finally, "theories" are tested on small sets of individuals prudently selected for their known or presumed possession of some critical quality or qualities (Kerlinger, 1973, p. 598). As such, Q represents a significant and singular approach to the study of educational, pyschological, and sociological phenomena and is an appropriate technique for the members of the jury to use when making their judgments.

Not only is Q an appropriate technique to use in this study, it is particularly pertinent. For example, in this study the single theoretical domain that is so much a part of the structured Q sort was the overriding valuing of a lateral configuration or broad diversity of course offerings (breadth of educational opportunity).

Additionally, the necessary items of structured Q sorts that are partitoned in one or more ways within this single domain also were present. They consisted of a slightly greater emphasis overall on o/t offerings as compared to transfer offerings, the valuing of a lateral distribution of courses among all the clusters rather than a vertical distribution within a few clusters, and the weighting of individual programs and courses comprising the transfer offerings. Thus, the theories or criteria used by this researcher were built into the structured Q sorts. These theories or criteria then were tested on a panel of experts comprised of the members of the AACJC Commission on Small/Rural Community Colleges, thereby satisfying the requirement that the theories be tested on small sets of individuals prudently chosen for their possession of some significant quality or qualities. In this study, then, all the necessary conditions were met for constructing the structured Q sort and for testing theories or criteria built into it. Lastly, and most importantly, if the statistical analyses performed on the jurors' responses reveals a positive correlation between the rankings of the jurors and those of the index of comprehensiveness, it may be assumed that the theories are valid and that the Q sort adequately articulates these theories or criteria. Since these findings also affirm the validation of the index of comprehensiveness, it is appropriate for the jurors to use the Q sort when ranking the 11 institutions in the sample.

In sum, the above discussion considered comprehensiveness, its

significance and its inexorable relationship with the community college movement. In so doing, the critical importance of comprehensiveness in general and of curricular comprehensiveness in particular were demonstrated and thus the need to develop an instrument to measure curricular comprehensiveness was justified. Also demonstrated was the appropriateness of a) employing a panel of experts or blue-ribbon jury to validate the instrument to measure curricular comprehensiveness, and b) utilizing the Q technique by the members of the jury to make their judgments.

CHAPTER III

Research Design and Methodology

The purpose of this study was twofold, the development of an instrument to measure credit curricular comprehensiveness and the validation of that instrument. More specifically, an index was developed as the measurement instrument to enable the ranking of the 160 institutions in the study's population with respect to their degree of comprehensiveness. Validation of the instrument was sought through the use of a juridical approach and Q technique. A discussion of the design, population/sample, instrumentation, data collection procedures and data treatment are presented in this chapter.

Design of the Study

Phase One. Combining both ex post facto and survey research, this study was divided into two major phases reflecting its twofold purpose. The first phase was concerned primarily with the measurement of credit curricular comprehensiveness and the ranking of institutions according to such a measurement. To this end, an index of curricular comprehensiveness was developed:

- to enable all members of the study's population of 160 small/rural community colleges to be ranked with respect to comprehensiveness, and
- to enable identification of the 11 institutions that were to

comprise the study's sample.

The data for this section of the design were accessed from the 1980-81 HEGIS tapes on enrollment and degrees awarded, from a survey questionnaire of the institutions in the initial population, and from the 1982 AACJC survey (AACJC, 1982a).

To achieve the desired ends in this section of the design, the following set of activities were undertaken:

- The first step involved defining and selecting members of the population, those institutions referred to as small/rural community colleges. To eliminate arbitrariness as much as possible, the American Association of Community and Junior Colleges Directory 1982 (AACJC 1982b) was consulted to provide the breakdown of headcount enrollmennts to account for the definition of "small." The category of 2,499 and under was chosen. However, the category of 999 and under was chosen to delineate this population even further. In a similar vein, "rural" institutions were considered to be all those instituions that identified themselves as rural in the 1982 AACJC survey (AACJC, (1982a).
- The next step involved finding a national data base that would permit access to data on all community colleges in each of the 50 states, their headcount enrollments, their form of control (whether state and/or local), and the degrees and other formal awards which they issued. In short, a data base

was required that would allow access to the identification of the members of the population as defined in this study. The HEGIS data base provided such accessibility, with the 1980-81 HEGIS tapes offering the most complete and up-to-date information. A series of Statistical Analysis System (SAS) programs were developed to elicit these data.

1. Analyses of programming of the Degrees Awarded Tape revealed that out of an initial count of 934 two-year colleges, only 914 were under state and/or local control, located in one of the United States and were not branches of four-year institutions.
2. Further analyses of programming of this tape revealed how many degrees were awarded in descending order of frequency. Since community colleges subscribe to the concept that career education should offer opportunities that result in immediate employment, upward mobility or retraining, programs that led to certificates or other types of formal recognition were valued equally with those that led to associate degrees. Moreover, during this and subsequent programs, the degrees awarded by the institutions were delineated from the certificates and other awards issued. The latter two award (certificates and other

awards) categories were collapsed into one category referred to for purposes herein as nondegrees. It was felt that any finer discrimination between the nondegrees awarded was unnecessary and cumbersome. The same programming was used for both degrees and nondegrees to enable further understanding of the comprehensive nature of the institutions and their offerings.

3. The Enrollment Tape was merged with the Degrees Awarded Tape. As a result of this merger, over 120 instituions were dropped (N = 786) because they had not provided complete or matching information. Following this step, all instituttions with a headcount enrollment of 2,500 and over were dropped (N = 432). Remaining colleges then were arranged in the two size categories: 1-999; 1,000-2,499.
4. Part of the definition of the small/rural community college included offering awards in the Arts and Sciences. Thus, all institutions that did not offer such awards were dropped (N = 337). The colleges that were dropped were considered to be purely technical institutions and, as such, by definition eschewed a comprehensive curriculum.
5. The <u>total</u> number of degrees awarded within

specific ranges:

1-4 degrees	10-14 degrees
5-9 degrees	15-19 degrees
20 degrees or more	

by the number of colleges (listed by institutional name) then were programmed (N = 337). Again, the same programming was undertaken for the nondegrees that was used for the degrees. Such programs, it was believed, would provide a greater insight into comprehensiveness of the occupational/ technical offerings. When classifying degrees and nondegree awards according to major fields of study, some specialties did not fit into the list enumerated by the HEGIS survey instrument. It was possible, however, to list these specialties by name under a category known in the survey instrument as "other, specify." All degrees/nondegrees so listed have been dropped from this study because of anticipated programming difficulties.

6. To discern how small colleges fared with the larger ones, the institutions were arranged according to the following headcount ranges:

1- 999	2,500-4,999
1,000-2,499	5,000 and over

and compared with respect to the number of degrees and nondegrees awarded within the various curricula as well as by the number of colleges awarding the degrees and nondegrees. All data results were arranged in descending order of frequency (N = 768).

7. Along these same lines, the institutions again were arranged according to the above described headcount ranges and compared with respect to the total number of degrees and nondegrees awarded within each cluster and by the number of colleges awarding these clusters. All data results were arranged in descending order of frequency (N = 768). For purposes herein, cluster will refer to one of the six areas of curricular concentration identified in the HEGIS tape for Degrees Awarded. By adding the degree and nondegree totals together for each cluster, the most frequently offered clusters were ascertained.
8. A listing by state (in alphabetical order) of all community colleges with a headcount enrollment of under 2,500 was elicited (N = 337). Responses were reported for 44 states.
9. It was decided that an understanding of the breadth of comprehensiveness (or breadth of opportunity) of the occupational/technical programs would be enhanced by

elicitation of the total number of different awards (merged degrees and nondegrees) offered for each cluster by each institution listed by name with the results reported in descending order of frequency. In this way, institutions in the population offering awards in each of the six clusters would be discerned easily as would those offering very few. Fourteen institutions did not offer any awards in any of the clusters. These institutions then were dropped since they were strictly liberal arts colleges and thus did not meet the definition of the small/rural community college employed herein. It, then, would be appropriate to elicit the total number of awards issued per curriculum within each cluster for each college according to institutional name. This would afford greater insight into the depth of comprehensiveness within each cluster.

10. To determine the members of the population, a list of each of the 323 colleges was printed according to institutional name, state, and identification (FICE) number.

- The next step involved matching the names of the institutional members of the population elicited from the HEGIS tapes with those institutions that identified themselves as rural in the

AACJC Survey, 1982. The results of this matching reduced the population to 248 institutions.

- A survey questionnaire, developed by Atwell and Sullins (1984) as part of a study on small/rural community colleges, was sent to each member of the population. The survey was employed because it permitted access to data unobtainable from the HEGIS tapes including remedial offerings as well as arts and science offerings. In addition, the responses to these questionnaires were entered into a data base and therefore were easily accessible through SAS programming. A more detailed discussion of the survey questionnaire is given subsequently under the segment dealing with Data Treatment and/or Methods of Analysis.
- An index of credit curricular comprehensiveness was developed. A detailed description of the index and its application is included in the section dealing with Data Treatment and/or Methods of Analysis. The index enabled all the members of the study's population to be ranked with regard to comprehensiveness. Furthermore, it enabled identification of the eleven institutions that served as the study's sample. The method used to select the members of the sample is outlined in the section under Population/Sample.
- Identification of the members of the population and the sample constituted fulfillment of the desired ends of this phase of the design.

Phase Two. The second phase of this study was concerned mainly with the validation of the instrument as a measure of comprehensiveness. In this connection, a blue-ribbon jury or panel of experts was selected

- to rank order the 11 institutions comprising the study's sample with respect to their degree of credit curricular comprehensiveness and
- to employ the Q technique via Q sorts to make their judgments.

To achieve the ends proposed for this phase of the design, the following set of activities were undertaken:

- The first step involved the selection of the sample of 11 institutions which were to be submitted to the blue-ribbon jury. A detailed account of the selection procedure is described in the section on Population/Sample.
- The next step was the conduct of a field test to determine if there was justification to submit the final sample to a blue-ribbon jury for validation of the index of comprehensiveness. A detailed description of the field test is described in the section on Instrumentation.
- Statistical analysis of the results of the field test showed sufficient justification to submit the sample of 11 institutions to a blue-ribbon jury, members of the Commission on Small/Rural Community College Commission, for validation of the instrument to measure comprehensiveness. This was accomplished by ranking

the 11 institutions from lowest to highest with respect to curricular comprehensiveness using Q sorts.

- Statistical analysis of the results of the ranking by the members of the jury was conducted. Based on this, an interpretation of the findings was made, conclusions were drawn, and recommendations for further research and educational applicability were offered.

An analysis of the rank ordering of the 11 institutions according to their degree of curricular comprehensiveness by the members of the blue-ribbon jury constituted fulfillment of this phase of the design.

Population/Sample

This section of the study is devoted to a discussion of the members of the population and sample including why and how they were selected.

Population. The accessible population of institutions that fit this study's definition of a small/rural community college consisted of 248 colleges. The data for this criteria selection were collected from the AACJC 1982 survey (AACJC, 1982a) and from the HEGIS tapes on enrollment, institutional characteristics, and degrees awarded. However, these sources did not indicate whether the institutions offered remedial/developmental coursework nor was there any indication of the kinds of transfer programs and coursework offered within the transfer curriculum. To ascertain this information, a survey questionnaire developed by Atwell and Sullins (1984) was sent to the

248 institutions comprising the accessible populations of small/rural community colleges. From this population, 160 institutions representing 37 states and ranging in headcount from 326 to 2,492 students completed and returned the survey questionnaire. These 160 small rural colleges, comprising a 65% response rate, served as the study's population. Selection of the population permitted the calculation of each population member's index of curricular comprehensiveness score. Furthermore, it also was possible to separate into two different groups the scores of those colleges which were considered small (headcount 1,000-2,499) and those considered very small (headcount 1-999).

Sample. The population selection of 160 institutions allowed fulfillment of the first purpose of the study, the development of an instrument to measure comprehensiveness. However, the second purpose of the study, the validation of the instrument using a jury procedure necessitated the selection of a representative sample from the study's population. It was neither feasible nor practical to expect each member of a jury to judge 160 institutions. A more manageable size was needed, one that would not interfere with the integrity of the population. To this end, a representative sample of 11 institutions was purposefully selected from the population's 160 members. The methodology employed for the sample selection was as follows:

- The comprehensive index scores of the 160 institutions that

were arranged in order from the highest to the lowest.

- Both the standard deviation and the mean for the scores were determined. The scores were grouped and plotted and found to represent a normal distribution curve. Therefore, the standard deviation (3.6713) was utilized as a method to select the members of the sample.
- Specifically, one third of the standard deviation (1.2238) was used to ensure greater coverage and smaller intervals.
- Out of a total of 11 scores selected, one score was the mean while the remaining ten were selected on the basis of their being equidistant from each other. Accordingly, five scores were selected above the mean and five scores were selected below the mean.
- One third of the 160 respondents had a student headcount ranging between 1-999 while the remaining two thirds had a student headcount ranging between 1,000-2,499. To approximate the population differential in the sample, four scores were chosen from schools with populations from 1-999 and seven scores were chosen from schools with populations from 1,000-2,499.

Thus, the sample consisted of 11 institutions purposively selected through use of a statistical procedure. Purposive sampling, a form of nonprobability sampling, is characterized by a deliberate effort to include presumably typical areas or groups in the sample. Too, it serves to increase the utility of information obtained from small

samples by providing for an opportunity to examine the phenomenon of interest to the researcher (Kerlinger, 1973). By employing this particular method of sample selection approximately 91% of all scores from the population were included. They ranged from among the lowest, middle, and highest scores. The student headcount differential expressed in the population also was represented in the sample. In this case, it was possible to select a sample that was both manageable in size for the members of a blue-ribbon jury to treat, and at the same time, representative of the initial sample while preserving its integrity.

Instrumentation

This section deals with the instrumentation employed. To this end, the specific instrument used, the rationale for using it, as well as comments on its validity and reliability are discussed. A description of the field test that was conducted also is presented.

The Specific Instrument. In this study, the instrument is an index designed to measure credit curricular comprehensiveness that was achieved by combining the results of the national survey developed by Atwell and Sullins (1984) and the HEGIS data into an index of comprehensiveness. Basically, an index may be defined as a number that is a composite of two or more numbers that enables the researcher to make a series of observations and to arrive at a single number from the measures of the observations. (Kerlinger, 1973).

The Rationale for Using an Index. The index was employed because

it allowed the researcher to reduce to manageable terms the complex raw data that had been collected. In this study, the index permitted all the institutions in the population to be arranged on a scale of comprehensiveness in quantifiable terms. It also allowed the position of each college to be determined on such a scale and, in so doing, it enabled identification of the members of the sample. Too, by reducing the data to manageable and quantifiable terms, mathematical and statistical manipulations were possible.

Validity and Reliability. Although three types of validity, namely content, construct and criterion-related have been classified, this study is concerned primarily with the last type. The accuracy or precision of the index to determine the degree of comprehensiveness, it may be assumed, is correct; the criteria, however, upon which it was predicated were selected in an arbitrary fashion. Thus, a juridical approach was undertaken to see if there was a correlation between the ranking of the institutions in the sample by the members of the panel and the ranking by the researcher. A positive correlation, using the Spearman rho statistical analysis, indicated criterion-related validity, showing that both the researcher and the members of the jury were using similar criteria.

After completing the correlation coefficient a second statistical analysis, the Kendall coefficient of concordance, was conducted to reveal interrrater reliability.

The reliability of the instrument, with respect to its

generalizability, also was enhanced by the juridical approach. Only this time, it was achieved through the makeup of its membership which has national representation. Too, the sources from which the data were collected, the HEGIS tapes and the survey questionnaire, involved institutions selected on a nationwide basis. Thus, generalizability, again, was enhanced.

Field Testing. In order to justify submitting the sample to a panel of experts, a field test was conducted. The academic leaders at three community colleges agreed to participate in this field test. Two of the three were small institutions, in terms of headcount, and one of the two was a small/rural community college. Two were located in New Jersey and one was located in Virginia. All documentation concerning institutions in the sample were submitted to the president and chief academic officer at each of the three institutions. The members of the field test were requested to rank order the institutions in the sample with respect to their credit curricular comprehensiveness. After this procedure was completed and the documents returned to the researcher, a coefficient correlation analysis (Spearman rho) was performed. The findings showed a 0.995 correlation significant at the 0.005 level of significance, between the ranking by the participants in the field test and the ranking according to the index of comprehensiveness developed by the researcher. Thus, it was deemed appropriate to undertake the next

step, submission of the sample to the jury for validation of the index. However, based on feedback provided by several of the members involved in the field test, the form of one of the documents was changed to make it more readable. All the materials sent to the jury are appended (See Appendix B).

A detailed description of the index of comprehensiveness and how it works appears in the section on Data Treatment or Methods of Analyses. Also appearing in this section is a detailed account of how the instrument was validated by use of a juridical approach and Q technique.

Data Collection Procedure. The data used in this study were elicited primarily from only two sources, the enrollment and degrees awarded tapes from the Higher Education General Information Survey (HEGIS) and a national survey conducted by Atwell and Sullins, (1984). No other sources either were available or were sufficient to answer questions raised in this study. The lack of such data sources was attested to by Atwell and Sullins in their monograph (1984):

> Despite the relatively large number of small rural community colleges and the recent increased visibility due in large part to the work of the Small/Rural College Commission, there is a surprising lack of empirical research on these institutions reported in the professional literature. Most of the professional writing tends to be of the impressionistic, intuitive or anecdotal variety...
>
> This type of dialogue is useful if, for no other reason, it calls attention to the small rural college and their crucial role in providing access to higher education for

> millions of Americans. What it does not do, however, is provide a data base or a collection of research studies that can be replicated to build a common body of research on the small rural college, its characteristics, its problems, and possible solutions to those problems. (pp. 10-11).

This section of the study contains the collection procedures involved in eliciting material from the HEGIS tapes and the national survey questionnaire.

The HEGIS Tapes. Initially, the data were collected from the enrollment, institutional characteristics, and degrees awarded tapes for 1980-81. The data were elicited through the development of a number of SAS programs and, where appropriate, were accessed from merged tapes as well as individual ones. The data were used to identify the members of the accessible population that fit this study's definition of small/rural community colleges, and to provide data that could be used to formulate the occupational/technical index of comprehensiveness. The degrees awarded tape supplied the information that was essential to the analysis of the occupational/technical offerings. A detailed description of these data appears in the section on Data Treatment and Methods of Analyses.

The Survey Questionnaire. Although the HEGIS tapes provided much valuable data concerning enrollment and occupational and technical programs (see the section on Data Treatment and Methods of Analyses for details), they lacked data concerning remedial/developmental coursework as well as transfer curriculum information. To ascertain these data, a national survey questionnaire was developed by Atwell

and Sullins (1984) and sent to each of the 248 members comprising the accessible population of small/rural community colleges.

Data Treatment and Methods of Analysis

Plans for analysis and reporting of the data are presented in this section, including a discussion of the research questions to be answered and the statistical procedures to be used. To address the research questions,

- Is it possible to measure curricular comprehensiveness?

and

- Is it possible to validate the instrument of measurement of curricular comprehensiveness?,

the methods of analysis undertaken were primarily quantitative in nature because the data, the manner in which they were collected, the instrument of measurement, and the validation procedure readily lent themselves to such an approach. The remaining portion of this section of the study is divided into two parts, each treating a research question and the types of analyses used to respond to it.

Research Question One--Measuring Comprehensiveness. To analyze the occupational/technical (o/t) curricular offerings accessed from the HEGIS tapes by the number of degrees and other awards, by enrollment, and by the number of community colleges awarding these degrees, a proc means, proc summary, and proc frequency were undertaken via SAS programming. In short, descriptive statistical analysis was performed on the data collected from the HEGIS tapes.

These data provided part of the information necessary for measuring curricular comprehensiveness. The remaining data, on remedial/developmental and transfer curricular offerings and accessed from the Atwell and Sullins survey, also were entered into a data base and analyzed in a similar manner using SAS programming. These data provided the remaining information necessary for measuring curricular comprehensiveness.

An index was developed as the instrument or device to measure credit curricular comprehensiveness in the small/rural community colleges in the study's population. This index permitted all the institutions in the population to be arranged on a scale of comprehensiveness in quantifiable terms. It also allowed the position of each college to be determined on such a scale, thereby enabling identification of the members of the sample. The following is a detailed description of the index of comprehensiveness, depicting what it is and how it works.

- The index was utilized as a device to measure credit curricular comprehensiveness. Noncredit offerings were omitted because of vagueness and a lack of uniformity intrinsic to the reporting process (Atwell, Vaughan and Sullins, 1982). This vagueness was particularly evident in the responses to the questions about noncredit offerings on the Atwell and Sullins survey. Too, the responses withstood reliable quantification.
- It was based on the breadth and depth of the

occupational/technical offerings elicited from HEGIS data and from university parallel (or transfer) offerings elicited from the Atwell and Sullins survey questionnaire. Since remedial/developmental offerings were considered essential to mission achievement and program comprehensiveness, they originally were to be included in the above measurement along with o/t and transfer offerings. However, virtually every member of the population of 160 institutions offered remedial coursework in some measure. Therefore, these offerings could not be used to differentiate among institutions. Responses to the Atwell and Sullins survey questionnaire revealed that only three institutions out of 160 did not provide remedial coursework in both reading and composition and only one did not provide remedial coursework in mathematics and either reading or composition. Although the index did not measure remedial/developmental offerings, an institution was required to provide some degree of remedial coursework to qualify for membership in the study's population.

- Based on national enrollment data, the occupational/technical division received 60% of the total weighting and the transfer division received 40%.
- The weighting of each division was considered beginning with the occupational/technical (o/t) offerings. Since the information for these offerings was collected from the HEGIS Degrees Awarded

Tape, the format for the organization of curricular offerings used in the Degrees Awarded survey questionnaire was employed. The o/t offerings consist of six clusters or program areas, each containing from five to nineteen curricular offerings (See Table 2 for cluster designation). The six clusters were considered to be the breadth of curricular offerings while the offerings within each cluster were considered to be the depth of curricular offerings. Equal educational opportunity, and hence comprehensiveness, was interpreted herein as referring principally to the breadth of offerings. Therefore, the number of clusters in which degrees and nondegrees were offered by an institution were weighted more heavily than the number of degrees and nondegrees awarded within each cluster. Furthermore, each cluster was considered equivalent to the other and thus weighted equally. However, some clusters contained more than three times the number of curricular offerings than others. Thus, a procedure was developed to equalize the value of each cluster. To this end, the following weighting system was adopted:

1. The first curriculum award, whether degree or nondegree, within each cluster was valued at 10 points, the second at 5 points, the third was awarded 3 points and the remaining ones were assigned values of 1 point each.

2. However, if both a degree and a nondegree are awarded for a particular curriculum, then the degree awarded was assigned the full complement of points enumerated above while the nondegree awarded received only 1 point in each instance.
3. If only a nondegree is awarded for a particular curricular offering, the nondegree received the full complement of points enumerated above.
4. Tables 1 and 2 indicate the weighting system.
5. Table 2 indicates that some clusters provide more curricular offerings than others. Nevertheless, each cluster, for purposes herein, is equal in value to all other clusters. The following system was employed to achieve this equivalency:
   A. Determine the mean value for the sum of the clusters.
   B. Each cluster is worth the mean value for the sum of the clusters.
   C. Separately divide the maximum possible number of points for each cluster into the mean value for the sum of the clusters to obtain the adjustment figure.
   D. Total the number of points actually achieved for each cluster and multiply that total by the adjustment figure appropriate for each cluster

TABLE 1

Weighting of Curricular Offerings Within Each of the Six Clusters in the Occupational/Technical Division

Curricular Offerings	Degree		Nondegree		Total Points
Weighting of each curriculum when either a degree or a nondegree is awarded					
First curriculum	-	+	10	=	10
Second curriculum	5	+	-	=	5
Third curriculum	3	+	-	=	3
Fourth curriculum	-	+	1	=	1
Fifth curriculum	-	+	1	=	1
Weighting of each curriculum when both a degree or a nondegree are awarded					
First curriculum	10	+	1	=	11
Second curriculum	5	+	1	=	6
Third curriculum	3	+	1	=	4
Fourth curriculum	1	+	1	=	2
Fifth curriculum	1	+	1	=	2

TABLE 2

The maximum possible number of points (including both degree and nondegree awards for each curricular offering) achievable in each of the six clusters according to their curricular offerings as outlined in the Degrees Awarded Survey

I	II	III	IV	V	VI
Data Processing Technologies (5 curricular offerings)	Health Services & Paramedical Technologies (19 curricular offerings)	Mechanical and Engineering Technologies (17 curricular offerings)	Natural Science Technologies (18 curricular offerings)	Business & Commerce Technologies (12 curricular offerings)	Public Service Related Technologies (8 curricular offerings)
11	11	11	11	11	11
6	6	6	6	6	6
4	4	4	4	4	4
2	2	2	2	2	2
2	2	2	2	2	2
25	2	2	2	2	2
	2	2	2	2	2
	2	2	31	2	31
	2	2		2	
	2	2		2	
	2	2		2	
	2	2		39	
	2	2			
	2	2			
	2	2			
	2	2			
	2	49			
	2				
	53				

and multiply that total by the adjustment the adjustment figure appropriate for each cluster to obtain the actual adjustment figure.

E. Find the sum of the clusters by adding together the actual adjustment figure for each cluster to obtain the o/t index figure.

- The following system of weighting the curricular offerings in the university parallel or transfer division was employed:

1. Each "yes" response to the 23 questions that pertained to the transfer curricular offerings in the Atwell and Sullins survey questionnaire was weighted according to its perceived contribution to comprehensiveness.
2. Program offerings that provided complete university parallel sequences leading to transfer acceptance at a junior level were weighted more heavily than transfer course sequences or individual transfer courses. To this end, a positive response to each of the 10 transfer program offerings was assigned a value of 5 points or 10 points whereas a positive response to each of the transfer course sequence and/or individual transfer courses was assigned a value of 1 point or 3 points.
3. With respect to the 10 transfer programs, only 3 were assigned a value of 10 points because of their

comprehensive nature and appeal as indicated by the frequency with which they are offered (Atwell & Sullins, 1984, p. 21 and p. 65; Beckwith 1980a; 1980b; 1980c; Cohen & Brawer, 1980; 1982; Edwards, 1980a; 1980b; 1980c; Friedlander, 1980, Friedlander & Edwards, 1980; Hill, 1980a; 1980b;Humanities, 1975; 1978a; 1978b), Schmeltekopf, 1980). These programs include business administration, liberal arts, and the natural or physical sciences.

4. With resepct to the course sequences and individual courses, 8 out of 13 offerings were assigned a value of 3 points because they were judged to be fundamental or central to a typical transfer program. As such, for example, one year of one or more behavioral/social sciences (psychology, sociology, etc.) was weighted more heavily than studio courses in art. Consideration also was given to the breadth of offerings. Therefore, one year each of three or more laboratory sciences was weighted more heavily than two years of one or more laboratory sciences (Atwell & Sullins, 1984, p. 23 and p. 66; Beckwith 1980a; 1980b; 1980c; Cohen & Brawer, 1980; 1982; Edwards, 1980a; 1980b; 1980c; Friedlander, 1980; Friedlander & Edwards, 1980;

TABLE 3

Occupational/Technical Adjustment Figures and Index Calculation

Step 1 Determination of the mean value for the sum of the clusters:

	Cluster I	Cluster II	Cluster III	Cluster IV	Cluster V	Cluster VI	Sum of the maximum possible number of points per cluster
Maximum possible number of points per cluster:	25	+ 53	+ 49	+ 31	+ 39	+ 31	= 228

228 ÷ 6 (the total number of clusters) = 38

38 is the mean value for the sum of the clusters

Step 2 Determination of the adjustment figure:

38 ÷ 25 = 1.52 1.52 is the adjustment figure for Cluster I

38 ÷ 53 = .72 .72 is the adjustment figure for Cluster II

38 ÷ 49 = .77 .77 is the adjustment figure for Cluster III

38 ÷ 31 = 1.22 1.22 is the adjustment figure for Cluster IV

38 ÷ 39 = .97 .97 is the adjustment figure for Cluster V

38 ÷ 31 = 1.22 1.22 is the adjustment figure for Cluster IV

TABLE 3 (Cont)

Step 3 Determination of the actual adjustment figure and the o/t index figure using an arbitrarily selected number of points to substitute for those acutually achieved for each cluster:

EXAMPLE A:

	Cluster I	Cluster II	Cluster III	Cluster IV	Cluster V	Cluster VI
Substitution of arbitrarily selected total number of points for those actually achieved for each cluster:	17	17	17	17	17	17
Multiply the above by the adjustment figure appropriate for each cluster:	17 x1.52	17 x .72	17 x .77	17 x1.22	17 x .97	17 x1.22
	25.84	12.24	13.09	20.74	16.49	20.74

actual adjustment figure for each cluster

Sum of the clusters: (using adjusted figures) 25.84 + 12.24 + 13.09 + 20.74 + 16.49 + 20.74 = 109.14

109.14 is the o/t index

TABLE 3 (Cont)

EXAMPLE B:

	Cluster I	Cluster II	Cluster III	Cluster IV	Cluster V	Cluster VI
Substitution of arbitrarily selected total number of points for those actually achieved for each cluster:	17	36	0	0	36	0
Multiply the above by the adjustment figure appropriate for each cluster:	17 x1.52	36 x .72	0	0	36 x .97	0
	25.84	25.92			34.92	

actual adjustment figure for each cluster

Sum of the clusters: 25.84 + 25.92 + 34.92 = 86.68

(using adjusted figures) 86.68 is the o/t index

Therefore, after using the adjustment figures:

109.14 is the o/t index for the total of 12 curricular offerings in all six clusters.

86.68 is the o/t index for the total of 24 curricular offerings in only three clusters.

Hill, 1980a; 1980b; Humanities, 1975; 1978a; 1978b; Schmeltekopf, 1980).

5. The actual or operating maximum possible total points for the transfer component are 96. This is possible only if every program, course, and course sequence are offered by an institution. Tables 4 and 5 indicate the weighting system.

- The actual or operating maximum possible total points for each division differs from the other. Therefore, the following system of adjustment will be employed to equalize the weight of each division:

1. The mean value for the sum of the clusters utilized for the o/t offerings also was the mean value for the transfer division.
2. Multiply this mean value by 0.6 to determine the total worth of points for the o/t division and by 0.4 to determine the total worth of points for the transfer division.
3. Divide the total worth of points for the o/t division by the maximum possible number of points for that division. Divide the total worth of points for the transfer division by the maximum possible number of points for that division to obtain the <u>divisional adjustment figure</u>.

TABLE 4

Weighting of Transfer Programs

Transfer Programs	Point Values*
Architecture	5
Engineering/Architecture	5
Agriculture	5
Business Administration	10
Teacher	5
Fine/Performing Arts	5
Liberal Arts	10
Mathematics	5
Natural or Physical Sciences	10
Computer Sciences	5

*Appropriate points were assigned if an institution replied "yes" to the question, "Can students at your institution complete university parallel sequences leading to transfer acceptance at the junior level?"

TABLE 5

Weighting of Transfer
Courses in Course Sequence

Courses/Sequences	Point Values*
Two years in one or more foreign languages	3
One year each of three or more laboratory sciences	3
Two years of one or more laboratory sciences	1
One year of mathematics beyond calculus	1
One year of one or more behavioral/social sciences (psychology, sociology, etc.)	3
One year of two or more history or government sequences	3
One year each of two or more literature sequences	3
One year of philosophy/humanities	3
One year of physical education activity	3
At least one course in health, first aid or nutrition	3
Courses in art and/or music appreciation	3
Studio courses in art	1
Performance courses in vocal and/or instrumental music	1

*Appropriate points were assigned if an institution replied "yes" to the question, "Does your institution offer the following courses?"

A. Total the number of points actually achieved for each division and multiply that total by the adjustment figure appropriate for each division to obtain actual divisional adjustment figure.

B. Total the actual adjustment figure for each division to determine index of credit curricular comprehensiveness for each institution.

C. These adjustments are depicted in the steps in Table 6.

4. Further discrimination to determine institutional rank or position on a scale of comprehensiveness can be computed either by multiplying the sum of the total worth of points of each division by .95, .90, .85, etc. or by dividing an institution's score of comprehensiveness by the sum of the total worth of points of each division. These rankings indicate an institution's percent of comprehensiveness. (See Table 7)

Research Question Two - Validating the Instrument to Measure Comprehensiveness. To validate the instrument or index of credit curricular comprehensiveness in small/rural community colleges, a juridical approach was employed. Specifically, a blue-ribbon jury was

TABLE 6

Divisional Adjustment Figures and Calculation of Index of Comprehensiveness

Step 1 **Actual or operating maximum possible total of points for each division:**

	O/T Offerings	Transfer Offerings
Maximum possible total points:	228	96

Step 2 **Total worth of points for each division:**

38 is the mean value for each division

x0.6

22.8 = total worth of points for the o/t division

38

x0.4

15.2 = total worth of points for the transfer division

Step 3 **Determination of the divisional adjustment figure:**

22.8 ÷ 228 = 0.1 0.1 is the adjustment figure for the o/t division

15.2 ÷ 96 = 0.158 0.158 is the adjustment figure for the transfer division

TABLE 6 (Cont)

Step 4 Determination of the actual divisional adjustment figure and the index of credit curricular comprehensiveness using an arbitrarily selected number of points to substitute for those actually achieved for each division:

	O/T Division	Transfer Division
Substitution of arbitrarily selected total number of points for those actually achieved for each division:	109.14	85
Multiply the above by the adjustment figure appropriate for each division:	109.14	85
	x0.1	x0.158
	10.914	13.43

actual adjustment figure for each division

Sum of the divisions (using above figures): 10.914 + 13.43 = 24.344

24.344 is the index of credit curricular comprehensiveness

selected, one "consisting of highly qualified persons" (Black, 1979, p. 157). In this study, the jury was chosen from among the 12 current (1985-1986) members of the Small Rural Community College Commission. This choice was based on the expertise and experience of the members as well as the positions of leadership that they occupy within the community college movement.

Each member of the Commission was sent a packet containing two letters, one from the dissertation advisor and one from this researcher; a set of instructions; a glossary of terms; and two documents depicting the offerings at each of the 11 member institutions in the sample. The letters enclosed in the packet requested the members of the Commission to aid the researcher by agreeing to help validate an instrument of comprehensiveness. To assist their work, a glossary of terms was enclosed along with a set of instructions which directed the participants, using Q sorts, to place in rank order according to their degree of credit curricular comprehensiveness the 11 institutions in the sample. Their ranking was based on the information supplied on two documents prepared for each sample member. The documents described the transfer programs and courses, the o/t programs, and the developmental/remedial offerings at each of the 11 institutions. One document described the offerings in narrative form while the other consisted of a summary chart. Each description was placed on a 5x8 card. Too, each member of the Commission was asked if additional information would have been helpful

TABLE 7

Position or Ranking of an Institution with Respect to Percent of Comprehensiveness

A score of 38	=	100% of comprehensiveness
*A score of 36.1	=	95% of comprehensiveness
A score of 34.2	=	90% of comprehensiveness
A score of 32.3	=	85% of comprehensiveness
A score of 30.4	=	80% of comprehensiveness
A score of 28.5	=	75% of comprehensiveness
A score of 26.6	=	70% of comprehensiveness
A score of 24.7	=	65% of comprehensiveness
A score of 22.8	=	60% of comprehensiveness
A score of 20.9	=	55% of comprehensiveness
A score of 19.0	=	50% of comprehensiveness
A score of 17.1	=	45% of comprehensiveness
A score of 15.2	=	40% of comprehensiveness
A score of 13.3	=	35% of comprehensiveness
A score of 11.4	=	30% of comprehensiveness
A score of 9.5	=	25% of comprehensiveness
A score of 7.6	=	20% of comprehensiveness
A score of 5.7	=	15% of comprehensiveness
A score of 3.8	=	10% of comprehensiveness
A score of 2.9	=	5% of comprehensiveness
A score of 0	=	0% of comprehensiveness

Note: For example, this figure was computed by multiplying 38 by .95. Thus, 38 x .95 = 36.1. This figure also may be computed by dividing 36.1 by 38. Thus, 36.1 ÷ 38 = .95.

in making such an evaluation and if any information supplied in the documentation was irrelevant. All materials contained in the packet have been appended (See Appendix B).

After the responses were completed and returned to the researcher, a scatter graph was constructed and two statistical analyses, the Spearman rho and the Kendall coefficient of concordance, were conducted. The Spearman rho (r_S) was used to determine if there was a positive correlation between the ranking of the index of comprehensiveness developed by the researcher and those of the members of the jury. The Spearman rank correlation was chosen because both variables are represented in ordinal terms and because it actually "is a correlation computed for numerical values that happen to be ranks" (Hays, 1963, p. 642). The Kendall coefficient of concordance (W) was employed to determine interrater reliability. In other words, the coefficient of concordance or the statistic W indicates the degree to which members of a set of m distinct rank orders of N things tend to be similar. For example, in this study, if each of the 12 jurists ($m = 12$), gave a simple rank order of the eleven institutions in the sample ($N = 11$), to what extent do these rank orders tend to agree or show concordance? This problem customarily is dealt with by the application of Kendall's statistic W which is closely related to the average r_S among the m rank orders (Hays, 1963, p. 656).

The above description of how the instrument to measure credit curricular comprehensiveness was validated and the description of the

statistical procedures to be used to analyze the responses of the members of the jury address the second research question and thus fulfill the requirements for this section of the study.

CHAPTER IV

Presentation of Results

Analyses of the data concerning the validation of the instrument to measure credit curricular comprehensiveness in small rural community colleges are presented in this chapter. Specifically, data were collected and analyzed from the responses of a blue-ribbon jury comprised of 10 current (1985-1986) members of the AACJC Commission on Small/Rural Community Colleges. Each juror, using Q sorts, was requested to place in rank order, according to degree of comprehensiveness, each of the 11 institutions in the sample. These evaluations were based on descriptions of the transfer programs and courses, the o/t programs, and the developmental/remedial offerings contained in two documents prepared for each sample member. The offerings were supplied in narrative form in one document and in a summary chart in the other. Furthermore, each juror was asked what, if any, additional information would have been beneficial in making such a judgment and what, if any, information included in the documentation was extraneous.

Based on the analyses of the data received from the jurors, the findings are reported in three sections. The first two sections are concerned with two statistical analyses, the Spearman rho and the Kendall coeffficient of concordance, performed on the data. Actually, the nominal and ordinal nature of the data along with the size of the

sample restricted the types of statistical analyses that could be employed. Nevertheless, these particular analyses were considered to be the best methods for validating the instrument (index) to measure comprehensiveness by examining agreement between the ratings of the jurors and those according to the index of comprehensiveness as well as among the urors themselves. The third section of this chapter is devoted to a discussion of comments offered by the jurors regarding any information provided in the documents but adjudged by them to be irrelevant or of any information omitted from the documents but adjudged to be useful when ranking the 11 institutions.

Although 12 members of the Commission on Small/Rural Community Colleges originally were contacted to serve as jurors, responses were received from only 10 members. Of the two that did not respond, one member resigned his position as community college president and ipso facto was disqualified to serve as a member of the Commission. At the same time, he also became ineligible to participate in this study by virture of his disqualification as a Commission member. The other member simply did not respond to the researcher's repeated requests to participate in this study.

Results of the Spearman rho statistical analysis

After the jurors' responses were completed and the documents returned to the researcher, the first statistical analysis to help to determine the validity of the index of comprehensiveness was conducted, namely the Spearman rank correlation coefficient (r_S). In

so doing, two different analyses using the Spearman rho were undertaken. The first such analysis compared the juridical rankings to the rankings according to the index of comprehensiveness. The results revealed a 0.997 correlation, signficant at the 0.005 level of significance indicating a highly positive, almost perfect, correlation between the overall juridical rankings and those of the index of comprehensiveness. See the scatter graph in Figure 1. It is noteworthy that the degree of correlation achieved during the field test analysis was slightly lower (0.995 correlation significant at the 0.005 level of significance) than that achieved above. The evaluators who participated in the field test included only six key academic leaders from three community colleges, two in New Jersey and one in Virginia. Furthermore, these persons were selected purposively on a rather restrictive basis. However, the evaluators that participated in the "actual" study included 10 community, junior, and technical college presidents representing institutions located throughout the nation. It should be noted that these jurors were chosen by virtue of their membership on the AACJC Commission on Small/Rural Community Colleges.

In addition to the overall correlation just described, the second analysis using the Spearman rho compared the members of the jury by pairs. The purpose of this analysis was to compare the rankings of each juror individually with the index of comprehensiveness (See Table 8) as well as with each other (See Table 9). This allowed for a

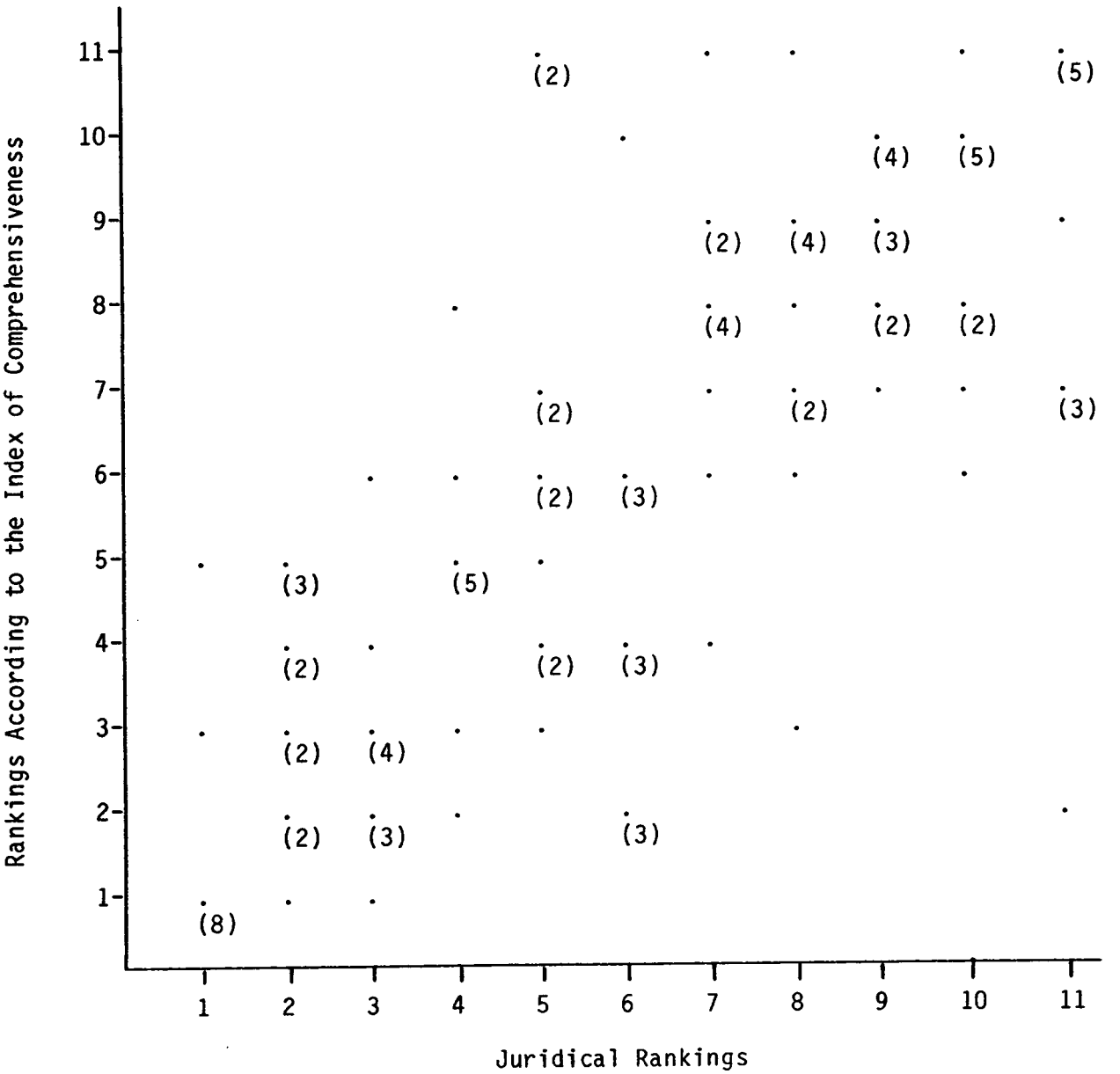

Figure 1
Scatter graph for Spearman rho

*The (unnumbered) · represents only one case.

TABLE 8

A Comparison of Individual Members of the Jury with the Index of Comprehensiveness Using the Spearman Rho

Juror #	r_s
1	.814
2	.927
3	.864
4	.827
5	.891
6	.345
7	.255
8	.891
9	.845
10	.973

Each juror was given a nominal random number from one to ten consecutively.

TABLE 9

A Comparison of Members of the Jury by Pairs

Using the Spearman rho

Juror #	Juror #									
	1	2	3	4	5	6	7	8	9	10
1	----	.827	.600	.545	.927	.764	.309	.936	.900	.791
2	.827	----	.909	.873	.836	.445	.345	.873	.891	.927
3	.600	.909	----	.982	.664	.145	.527	.727	.664	.855
4	.545	.873	.982	----	.582	.100	.527	.682	.618	.836
5	.927	.836	.664	.582	----	.627	.273	.900	.864	.836
6	.764	.445	.145	.100	.627	----	.127	.527	.682	.318
7	.309	.345	.527	.527	.273	.127	----	.441	.136	.227
8	.936	.873	.727	.682	.900	.527	.441	----	.909	.909
9	.900	.891	.664	.618	.864	.682	.136	.909	----	.855
10	.791	.927	.855	.836	.836	.318	.227	.909	.855	----

Each juror is given a nominal random number from one to ten consecutively.

more detailed analysis, permitting individual consistencies among jurors to be revealed. Such an analysis, therefore, helped to determine interrater reliability. After each juror was given a nominal random number from one to ten consecutively, the following 11 comparisons were undertaken:

- The first compared each juror with the index of comprehensiveness. The results revealed that comparisons with jurors six and seven were not significant; comparison with juror one was significant at the 0.01 level of significance; and all others were significant at the 0.005 level of significance. The average r_S was 0.763, significant at the 0.01 level of significance.
- The second compared juror one with the other nine jurors. The results revealed that comparison with juror seven was not significant; comparisons with jurors three and four were significant at the 0.05 level; comparisons with jurors six and ten were significant at the 0.01 level; comparisons with jurors two, five, eight, and nine were significant at the 0.005 level. The average r_S was 0.733, significant at the 0.025 level.
- The third compared juror two with the other nine jurors. The results revealed that comparisons with jurors six and seven were not significant; comparison with juror one was significant at the 0.05 level; comparisons with all other jurors were significant at the 0.005 level. The average r_S was 0.770,

significant at the 0.01 level.

- The fourth compared juror three with the other nine jurors. The results revealed that comparison with juror six was not significant; comparisons with jurors one and seven were significant at the 0.05 level; comparisons with jurors five, eight, and nine were significant at the 0.025 level; comparisons with jurors two, four, and ten were significant at the 0.005 level. The average r_S was 0.665, sigificant at the 0.025 level.
- The fifth compared juror four with the other nine jurors. The results revealed that comparison with juror six was not significant. Comparisons with jurors one, five, seven and nine were significant at the 0.05 level; comparison with juror eight was significant at the 0.025 level; and comparisons with jurors two, three and ten were significant at the 0.005 level. The average r_S was 0.638, significant at the 0.025 level.
- The sixth compared juror five with the other nine jurors. The results revealed that comparison with juror seven was not significant; comparison with four was significant at the 0.05 level; comparisons with jurors three and six were significant at the 0.025 level; and comparisons with all others were significant at the 0.005 level. The average r_S was 0.723, significant at the 0.025 level.
- The seventh compared juror six with the other nine jurors. The results revealed that comparison with juror eight was

significant at the 0.05 level; comparisons with jurors five and nine were significant at the 0.025 level; comparison with juror one was significant at 0.01 level; and comparisons with all others were not significant. The average r_S was 0.415 and was not significant.

- The eighth compared juror seven with the other nine jurors. The results revealed that comparisons with jurors three and four were significant at the 0.05 level and that comparisons with all others were not significant. The average r_S was 0.324 and was not significant.
- The ninth compared juror eight with the other nine jurors. The results revealed that comparison with juror seven was not significant; comparison with juror six was significant at the 0.05 level; comparisons with jurors three and four were significant at the 0.025 level; and comparisons with all others were significant at the 0.005 level. The average r_S was 0.767, significant at the 0.01 level.
- The tenth compared juror nine with the other nine jurors. The results revealed that comparison with juror seven was not significant; comparison with juror four was significant at the 0.05 level; comparisons with jurors three and six were significant at the 0.025 level; and comparisons with all others were significant at the 0.005 level. The average r_S was 0.724, significant at the 0.025 level.

- The eleventh compared juror ten with the other nine jurors. The results revealed that comparisons with jurors six and seven were not significant; comparison with juror one was significant at the 0.01 level; and comparisons with all others were significant at the 0.005 level. The average r_s was 0.728, significant at the 0.025 level of significance.

  The overall average r_s of the jurors was 0.649, significant at the 0.005 level.

Results of the Kendall coefficient of concordance analysis

The second statistical analysis conducted to help to determine the validity of the index of comprehensiveness was Kendall's coefficient of concordance (statistic W). The purpose of this particular analysis was to verify interrater reliability indicated by the Spearman rho juror pairs. In other words, the statistic W was employed to indicate the degree to which members of a set of m distinct orders of N things tend to be similar (Hays, 1963, p. 656). For example, if each of the 10 jurists (m=10) gives a simple rank order to the 11 institutions in the sample (N=11), to what extent do these rank orders tend to agree or show concordance? See Table 10.

The results of the analysis revealed that the variance of the rank of sums was 68% of the maximum possible, indicating a moderately high degree of "concordance" among the jurors in their ranking of the 11 institutions. The degree of concordance increased to 70% when the index of comprehensiveness was included as a juror.

TABLE 10

Kendall Coefficient of Concordance

Schools Ranked According to Index of Comprehensiveness

	T	F	H	G	K	J	Q	P	L	M	S
Jurors	1	2	3	4	5	6	7	8	9	10	11
1	1	3	4	6	2	5	11	8	9	10	7
2	1	4	3	5	2	6	7	9	8	10	11
3	1	6	2	3	4	7	5	10	8	9	11
4	1	6	3	2	4	8	5	10	7	9	11
5	1	2	3	6	4	5	9	7	11	10	8
6	2	6	8	7	1	3	11	4	9	10	5
7	3	11	1	2	4	10	8	7	9	6	5
8	1	3	2	5	4	6	11	7	8	9	10
9	1	3	5	6	2	4	10	7	8	9	11
10	1	2	3	4	5	6	8	9	7	10	11
T_J	13	46	34	46	32	60	85	78	84	92	90

The coefficient W is closely related to the average r_S among the m rank orders. For example, the average r_S of the jurors was 0.6474, significant at the 0.005 level of significance, as compared to 0.6827 when the statistic W was employed as the base. Too, the average r_S of the jurors when including the index of comprehensiveness was 0.6678, significant at the 0.005 level of significance, as compared to 0.6981 when the statistic W was employed as the base. Although the advantage of reporting findings in terms of W rather than average r_S is that "W values are more immediately comparable across different sets of data" (Hays, 1963, p. 658), the clearest interpretation of W, nevertheless, appears to be in terms of average r_S (Hays, 1963, p. 658).

Furthermore, a precise test for the hypothesis that no actual agreement exists among judges is possible by conducting the chi-square distribution with N-1 degrees of freedom (Hays, 1963, p. 658). This test also was performed on the data in this study. The results revealed that χ^2 was 68.27 with 10 degrees of freedom, significant at the 0.005 level for χ^2 when only the jurors' results were analyzed. However, when the jurors' results and the index were analyzed, χ^2 was 76.79 with 10 degrees of freedom, significant at the 0.005 level for χ^2 (Kendall, 1962, p. 191). Thus, these findings revealed an association among the responses of the jurors and those of the jurors and the index of comprehensiveness.

In other words, the results revealed by the statistic W, the

average r_s, and χ^2 all are correlated closely and further verify the existence of interrater reliability.

Discussion of jurors' comments concerning information supplied

In addition to requesting each member of the jury to place in rank order according to their degree of credit curricular comprehensiveness the 11 institutions in the sample, each juror was asked if any additional information would have been helpful in making such a judgment and if any information included in the documentation was irrelevant. Of the 10 jurors responding, six either offered no comment or specifically stated that the charts and directions were helpful and that all the information supplied was necessary. This section, however, addresses the comments offered by the four remaining respondents. In so doing, these comments are grouped into three categories, jurors' comments regarding o/t clusters and comprehensiveness, jurors' comments regarding community services, and jurors' comments regarding the transfer program curriculum. Since these categories were drawn roughly for the sake of discussion, occasional overlap may exist between them. The presentation of each of these categories of comments is followed immediately with responses from the researcher.

Jurors' comments regarding o/t clusters and comprehensiveness. Concerning cluster representation in general, the degree to which each cluster was offered and the program offerings within each cluster, it is interesting to note the varying opinions among the

respondents. For example, on the one hand, several jurors commented that additional information would have been helpful regarding the programs within the o/t clusters such as current and projected enrollment figures for each program per se and in relation to college parallel programs and employment needs; the number of graduates each year in each program; and the number and percent of graduating students that have jobs. On the other hand, two of the jurors considered the information relating to the cluster representation to be irrelevant, particularly with respect to the degree to which each cluster was offered. It was believed that, at best, program offerings provide no more than sketchy information about the actual services furnished by the college to the community. Comprehensiveness, it was pointed out, is a factor of offerings relative to community need while enrollment in diverse types of programs must be considered relative to other institutions of higher education in the service area (since comprehensive program offerings might be shared by two or more such institutions). In other words, it was emphasized that comprehensiveness must be considered in terms of the total community.

Researcher's response. First, in response to the comments concerning the need for additional information regarding enrollment and graduation figures for each of the programs within the o/t clusters as well as such follow-up studies concerning the number of graduating students that have jobs, it must be noted that no such

information was available from the HEGIS data base used in this study for obtaining occupational/technical information. However, overall national enrollment figures available from other sources were used in the development of the index of comprehensiveness. The data revealed that approximately 60% of the students throughout the nation were enrolled in occupational/technical programs while fewer than 40% were enrolled in programs designed for transfer. This relationship was reflected in the index by weighting the o/t index as 60% of the overall index of comprehensiveness and the transfer index as 40% of the index. Too, it was recognized that while the distribution of students was a practical concern to individual colleges, it was not a concern for this study. Furthermore, it was assumed that if a program was offered, it had a sufficient number of enrollees and/or graduates or it would cease to be offered in the future. The prime emphasis in this study was on the availability of the diverse program offerings and not on their enrollments. This leads directly to a discussion of the comments concerning the irrelevance of including any information on o/t cluster representation.

Not only were o/t cluster representation and the degree to which each cluster was offered (i.e. the program offerings within each cluster) considered relevant, they comprised 60% of the total worth of the index of comprehensiveness as indicated above. Most important, however, they represent the concept of comprehensiveness as expressed in this study. While acknowledging that both breadth (the six

curricular offerings) and depth (the offerings within each cluster) of curricular offerings constitute credit curricular comprehensiveness, for purposes herein the breadth or diversity of course offerings was judged to be more important since the community college must serve the educational needs and demands of a diverse constituency. In other words, breadth of comprehensiveness was equated principally with breadth of opportunity. Therefore, inclusion of information concerning cluster representation not only was viewed as relevant, it was considered to be crucial for making a judgment with regard to ranking the 11 colleges in the sample.

In response to comments concerning program offerings that might be shared by two or more institutions within a service area, it is acknowledged that where such a situation exists, the index of comprehensiveness may, in fact, understate this condition by not recognizing the program offerings so shared. However, this study was limited primarily to small rural community colleges that more often than not are the sole purveyors of postsecondary education within a 90 mile radius.

Responding to the comments that comprehensiveness is a factor of offerings relative to community need and must be viewed in terms of the total community, it must be pointed out that this researcher concurs completely with these statements. Nevertheless, the design of this study was limited to curricular comprehensiveness and, even further still, to credit curricular comprehensiveness. As Atwell and

Sullins affirm, "the credit curriculum is the educational focus of the institution" (1984, p. 20)." Of course, all other services including student support services and community services, must be related to the instructional program. This leads to the next group of comments classified as community services.

Jurors' comments regarding community services. Two jurors commented that additional information concerning community services would have been helpful when making their ranking judgments including an indication of college involvement in community activities, i.e. arts programs and economic development; type of economy in the area; type of businesses in the area; major economic changes in the area over the past five years; an indication of college responsiveness to community needs; geographic locations of institutions (urban, rural) and short-term noncredit course offerings.

Researcher's response. As indicated in the previous category of comments, the design of this study was restricted to credit curricular comprehensivenss in small rural community colleges. While, admittedly, community services certainly is an important aspect of institutional comprehensiveness, it does not fall within the purview of this study. It should be pointed out that the Atwell and Sullins questionnaire did attempt to extract from its respondents data dealing with their institutions' business and economic environments. However, the responses often either were omitted or not answered in a usable or reliable (precise) enough

manner. At this juncture, it is interesting to note that one of the major assumptions of this study is that a distinction exists between the needs of the community and the demands of the community. It further assumes that the term "community" is not confined chiefly to those involved in the industrial base, but includes all the adult citizens of the service area. This is especially true in today's mobile society where courses and programs offered in one service area may be used to fulfill job opportunities offered in another area. Moverover, such accessibility to educational opportunity allows its citizenry greater flexibility as well as mobility. In rural areas, where many rural youths realize that they will have to seek employment opportunities elsewhere (Atwell and Sullins, 1984, P. 58), the need for access to educational opportunity (curricular comprehensiveness) obviously is underscored all the more. It is imperative that, under such conditions, access to educational opportunity must not be equated primarily with local employment demands. Besides, it should be understood that the rural community college (via its employment opportunities and housing for its employees) also contributes to the economic base of the service area.

With respect to comments about noncredit offerings, the questionnaire developed by Atwell and Sullins also attempted to glean information about these noncredit activities. However, the respondents interpreted the questions dealing with the noncredit curriculum in such varying and often vague ways that the data

collected were unusable.

Jurors' comments regarding the transfer curriculum. Two of the jurors commented that additional information concerning the transfer curriculum would have been helpful including the number of second year students transferring to four-year institutions each year as well as the percentage of graduates, the past and projected trends (in five-year intervals) of transfer activites, the type of four-year institutions to which students are transferring, the number of faculty in each program, institutional type (public, private, independent, church related, etc.), and why or why not the Liberal Arts were or were not included in the transfer program.

Researcher's response. In response to the above comments, with the exception of the type of institution, it should be noted that these data were available neither from the HEGIS tapes nor from the questionnaire developed by Atwell and Sullins. Concerning comments on the type of institution surveyed, only small rural community (public) colleges as defined herein were included in the sample or from the population of 160 institutions from which the sample was selected.

The above presentation of the results of the data concerning the validation of the instrument to measure comprehensiveness via two statisitcal analyses and a discussion of the jurors' comments concerning information supplied in the documentation used for ranking the 11 institutions in the sample fulfill the requirements for this section of the study.

CHAPTER V

Summary, Conclusions, and Recommendations

A summary of the research, conclusions drawn, issues raised, and recommendations for further research as well as implications for potential application for educational practice and/or policy based upon the results of this research are presented in this chapter.

Summary

Founded on the conviction that curricular comprehensiveness, the commitment to offer a broad spectrum of programs and courses for all members of the community, is an essential ingredient necessary for community colleges to carry out their mission, the study focused on the design and validation of an instrument to measure curricular comprehensiveness. The importance of curricular comprehensiveness, its relation to mission attainment, and its definition in terms of a lateral configuration are underscored in the literature (Atwell & Sullins, 1984; Bogue, 1950; Bowen, 1977; Eaton, 1981; Gausman, 1978; Gleazer, 1968; Hyde, 1982; Johnson, 1969; Koos, 1925; Medsker & Tillery, 1979; Monroe, 1972; Reynolds, 1969; Thornton, 1972; Vaughan, 1982; 1985). In particular, this study was designed to develop an instrument to measure credit curricular comprehensiveness in small rural community colleges and, again, to validate said instrument. The credit curriculum was chosen because it represents the instructional

heart of the institution (Atwell & Sullins, 1984). Small rural community colleges were chosen because they frequently are the sole providers of postsecondary educational opportunity "within a 90 to 100 mile radius of their campuses" (Eaton, 1981, p. 15), thereby elevating the necessity for curricular comprehensiveness for mission achievement from essential to indispensable.

To accomplish this measurement, an index of comprehensiveness was devised based on o/t program data from the HEGIS tapes and transfer and developmental/remedial program data from responses to a nationwide questionnaire sent to small rural community colleges. This index successfully enabled the researcher to rank, with respect to comprehensiveness, all 160 members of the study's population, including, of course, the 11 members of the validation sample drawn from it. The development of the index addressed the first research question of the study concerning the measurement of curricular comprehensiveness. However, the index was based largely on a arbitrary weighting system developed by the researcher in conjunction with a search of the literature (including Atwell & Sullins, 1984; Beckwith, 1980a; 1980b; 1980c; Cohen & Brawer, 1980; 1982; Edwards, 1980a; 1980b; 1980c; Friedlander, 1980; Friedlander and Edwards, 1980; Hill, 1980a; 1980b; Humanities, 1975; 1978a; 1978b; Schmeltekopf, 1980), national data figures, and responses to the nationwide questionnaire referred to above and was not compared to other, less empirical definitions of comprehensiveness.

The question of the validity of the index, therefore, remained to be addressed.

To validate this index, a juridical approach was employed. The appropriateness of using such an approach was discussed in the review of the literature (Encyclopaedia Britannica, 1984; Lyerly. 1973). In this case, the jury of experts was comprised of the members of the AACJC Commission on Small/Rural Community Colleges. This selection was based on the expertise and experience of the members in additon to the positions of leadership that they occupy within the community college movement. All the members that participated were presidents of small rural community, junior, or technical institutions representing colleges throughout the nation. Too the AACJC "is seen as the national voice and advocate of the philosophy and mission of community college education" (Martorana & Kuhns, 1985, p. 237). Each member of the jury, individually, was requested, to use Q sorts, to place in rank order, according to their degree of credit curricular comprehensiveness, the 11 institutions in the sample. The appropriateness of using Q sorts was discussed in the review of the literature (Kerlinger, 1973; Stephenson, 1953). The ranking was based on the information supplied on two documents prepared for each member of the sample. The documents described the transfer programs and courses, the o/t programs, and the developmental/remedial offerings at each of the 11 institutions. One document described the offerings in narrative form while the other consisted of a summary chart. Each

description was placed on a 5x8 card. Too, each member of the Commission was asked if additional information would have been helpful in making such a judgment and if any information supplied in the documentation was irrelevant.

After the responses were completed and returned to the researcher, two statistical analyses were conducted, the Spearman rank correlation coefficient (r_S) and the Kendall coefficient of concordance (statistic W). With respect to the former, two different analyses using the Spearman rho were undertaken. The first such analysis compared the overall juridical rankings to the rankings according to the index of comprehensiveness developed by the researcher. The results revealed a 0.997 correlation, significant at the 0.005 level of significance. The second analysis using the Spearman rho compared the members of the jury by pairs. The purpose of the analysis was to compare the rankings of each juror "individually" with the index of comprehensiveness as well as with each other, thereby permitting individual consistencies among the jurors to surface. This analysis, therefore, helped to determine interrater reliability. When each juror was compared individually with the index, the average r_S was 0.763, significant at the 0.01 level of significance. The results also indicated that the ranks given by two jurors (referred to as jurors 6 and 7 in Tables 8 and 9) differed decidedly from the index of comprehensiveness, from all the other jurors, and from each other. The average r_S of the jurors was 0.6474, significant at the 0.005

level of significance, when only the jurors were compared to each other. However, when the index of comprehensiveness was included as a juror, the average r_S increased to 0.6678, significant at the 0.005 level of significance.

The second statistical analysis conducted to help to determine the validity of the index, Kendall's coefficient of concordance, was employed to verify interrater reliability indicated by the Spearman rho juror pairs. The results of the analysis revealed that the variance of the rank of sums was 68% (or 0.6827) of the maximum possible. The degree of concordance increased to 70% (or 0.6981) when the index of comprehensiveness was included as a juror.

The chi-square distribution with N-1 degrees of freedom also was performed to test the hypothesis that "no actual agreement" exists among jurors. The results revealed that χ^2 was 68.27 with 10 degrees of freedom significant at the 0.005 level for χ^2 when only the jurors' results were analyzed and 76.79 with 10 degrees of freedom significant at the 0.005 level for χ^2 when the jurors results and the index were analyzed. The analysis of the data based on the jurors' rankings addressed the second research question concerning the validation of the instrument of measurement of curricular comprehensiveness.

With respect to the comments requested of the jurors regarding any information provided in the documents but adjudged by them to be extraneous or any information omitted from the documents but adjudged to be useful when ranking the 11 institutions, only four of the ten

jurors offered any comments. These comments were grouped roughly into three categories and were responded to by the researcher.

Conclusions

Two major conclusions can be drawn in direct response to the study's two research questions:

1. Is it possible to measure curricular comprehensiveness?
2. Is it possible to validate the instrument of measurement of curricular comprehensivenss?

First Major Conclusion. The first major conclusion drawn affirms that indeed it is possible to measure curricular comprehensiveness. This affirmation is based on the development of an instrument to measure credit curricular comprehensiveness, notably the index of comprehensiveness, derived from data from the HEGIS tapes (a nationwide data base) and a nationwide survey questionnaire. Furthermore, the development of the index of comprehensiveness enabled 160 institutions in the study's population to be ranked according to their credit curricular comprehensiveness. Too, the employment of a national data base and survey questionnaire broadened its sphere of application or, in statistical jargon, increased its generalizability. Although the index affirms that it is possible to measure credit curricular comprehensiveness, it was founded on a weighting system devised by the researcher without comparison to other less empirical definitions of comprehensiveness. Hence, the question of the instrument's validity remained to be substantiated.

Second Major Conclusion. The second major conclusion arrived at verifies the validity of the instrument (the index) to measure curricular comprehensiveness. This verification is based on the analysis of data received from the responses of the blue-ribbon jury comprised of 10 current (1985-1986) members of the AACJC Commission on Small/Rural Community Colleges. As was indicated in the previous summary section as well as in Chapter IV, two statistical analyses were performed on the data, the Spearman rank correlation coefficient (r_S) and the Kendall coefficient of concordance (statistic W). Moreover, two different analyses were conducted using the Spearman rho. The first compared the overall juridical rankings with those of the index of comprehensiveness. These results indicated a highly positive correlation between the overall juridical rankings and those of the index thereby attesting, at least in part, to the validity of the instrument. The second analysis employing the Spearman rho compared the members of the jury by pairs. In so doing, each juror was compared individually with the index of comprehensiveness and with one another, allowing individual consistencies among the jurors to be revealed. These results revealed that, on the average, juror pairs tended to give relatively similar rankings. Too, on the average, the rankings of each juror tended to be similar to those of the index. These findings further verified the validity of the index by helping to determine interrater reliability.

The findings also indicated that the rankings of two of the

jurors, referred to as jurors 6 and 7 in Tables 8 and 9, differed markedly from the index of comprehensiveness, from all the other jurors, and from each other. These results suggest that they represent judgments based on criteria other than those used by the other jurors and the researcher. This is underscored in the comments offered by the jurors. One of these two jurors considered the information relating to cluster representation to be irrelevant, particularly with respect to the degree to which each cluster was offered. The researcher, however, considered it to be a critical factor when making a judgment with regard to ranking the 11 institutions in the sample and to represent the concept of comprehensiveness as expressed in this study. Furthermore, it comprised 60% of the total worth of the index of comprehensiveness. Obviously, jurors 6 and 7 who represented 20% of the members of the jury, had different concepts of curricular comprehensiveness than those subscribed to by the researcher and the other jurists. One can only speculate as to why their concepts were so divergent from all the others as well as from each other. Perhaps juror 6, who commented at length about the importance of relating comprehensiveness to the needs of the community, also believed that the community is the key determinant of the market. On the other hand, it must be recognized that citizens from single industry areas also have the right to access to a broader spectrum of educational opportunity, if only to enable them to leave the area and to find employment elsewhere.

Kendall's coefficient of concordance (statistic W) was the second statistical analysis conducted to help to determine the validity of the index of comprehensiveness. Actually, the statistic W was employed to indicate the degree to which members of a set of m distinct orders (10 jurors) of N things (11 institutions) tend to be similar, agree, or show concordance. In other words, W values are immediately comparable across different sets of data. Put in still another way, "the coefficient of concordance W, expresses the average agreement, on a scale from .00 to 1.00, between the ranks" (Kerlinger, 1973, p. 293). "According to this method W can be expressed as... the total sum of squares of a complete analysis of variance of the ranks" (Kerlinger, 1973, p. 293). The findings indicated a moderately high degree of "concordance" among the jurors in their ranking of the 11 institutions and a higher degree of "concordance" when the index of comprehensiveness was included as a juror. This analysis further verified interrater reliability indicated by the Spearman rho juror pairs and, in so doing, further verified the validity of the index. In this case, however, agreement was revealed among the ranks rather than among the jurors individually.

Additionally, a precise test for the hypotheses that no actual agreement exists among jurors was performed on the data by conducting the chi-square distribution with N-1 degrees of freedom. The findings indicated an association among the rankings of the jurors and among the rankings of the jurors and those of the index. Since the results

revealed by the statistic W, the average r_S, and the χ^2 all were correlated closely, the existence of interrater reliability was verified further, as was the validity of the index of comprehensiveness.

In conclusion, all the results of the statistical analyses performed on the data attest to the validity of the instrument to measure comprehensiveness. This conclusion can be interpreted in five ways:

- Overall, the members of the jury used criteria essentially the same or similar to those used by the researcher when developing the index of comprehensiveness.
- On the average, the members of the jury (juror pairs) tended to use relatively similar criteria, in the overall ranking of the 11 institutions.
- On the average, the individual jurors tended to use relatively similar criteria to those employed by the researcher when developing the index.
- On the average, the members of the jury tended to use relatively similar criteria when ranking, on an individual basis, each of the 11 institutions.
- On the average, the members of the jury tended to use relatively similar criteria to those employed by the researcher in the development of the index when ranking, on an individual basis, each of the 11 institutions.

The "relatively similar criteria" referred to above include the overriding importance of the diversity of course offerings (or breadth of educational opportunity), a slightly greater emphasis overall on o/t offerings as compared to transfer offerings, and the weighting of individual programs and courses comprising both the transfer and o/t offerings. More will be stated about these criteria in the Recommendations section of this chapter.

Generalizability. Moreover, by use of the juridical approach employing experts in the field who represent institutions throughout the nation, generalizability was enhanced further. On the other hand, the jurors represented small rural community, junior, or technical colleges. This may lend itself to an interpretation that limits its usefulness or application only to these types of institutions, thereby also limiting its generalizability. Nonetheless, the literature (Atwell & Sullins, 1984; Cohen, 1978, Cross, 1985, Gianini, 1979) shows that it is easier for large institutions to be comprehensive than for small ones. Therefore, it may be appropriate to use the index of comprehensiveness to gain at least some concrete understanding of an institution's comprehensiveness, regardless of size. Besides, the HEGIS data base is used for community colleges of all sizes. Also, the national survey questionnaire developed by Atwell and Sullins was sent to community collges of all sizes as well. The data gleaned from both of these sources were used to develop the index of comprehensiveness.

By using ex post facto data, survey data, a juridical approach using Q sorts and two structured questions, and at least three different kinds of rank correlation and chi square analyses (each of which correlates with the other), triangulation not only was achieved, it was heightened.

Caution, however, must be exercised when using the index in areas where one or more colleges share program offerings. The index may understate this situation by not recognizing these shared offerings.

In sum, two major conclusions may be drawn as a result of this study's research. First, it is possible to measure credit curricular comprehensiveness using the index described herein. Second, the index of comprehensiveness is a valid instrument to measure comprehensiveness as attested to by the statistical analyses performed on the data received from juridic responses through use of Q sorts.

Further Issues

As a result of the research undertaken and the conclusions drawn, several issues that affect comprehensiveness remain to be addressed.

Misuse of the index. To avoid possible misuse of the index of comprehensiveness, caution should be exercised not to employ it as a prescription for comprehensiveness, but only as a measure of it. The index merely provides a reading of an institution's degree of comprehensiveness. The reading may or may not be indicative of a problem, depending upon the circumstances confronting each

institution. In fact, a reading indicative of a high degree of comprehensiveness in some instances may be undesirable. For example, it is conceivable that an institution may exist in a service area that includes other providers of postsecondary educational opportunity, including a non-selective and inexpensive four-year college. Under these circumstances, a community college would not, and probably should not, have to achieve a relatively high degree of comprehensiveness for the members of its service area to gain access to educational opportunity.

Quality and comprehensiveness. Under no circumstances should a quality education be sacrificed to achieve comprehensiveness. It must be recognized that limited resources also may limit an institution's ability to achieve comprehensiveness. In such a situation, an institution may have to decide whether to strengthen existing programs or to chance the possibility of diluting them with the addition of new programs. The latter choice may result in offering access to mediocrity.

Increasing significance of noncredit offerings. Although this study focused primarily on the credit curriculum, the ever-increasing significance of the noncredit curriculum must be recognized. More and more, community colleges are participating in partnerships with industries where the main thrust of their activities involve the noncredit rather than the credit curriculum. Some colleges even deliver their services on a contractual basis. At any rate, it is

possible and desirable, in many instances, to diversify educational opportunity apart from the credit curriculum.

In conclusion, suffice it to say that in all the issues raised above, the nature of the service area, the demands of the market, and the availability of resources will influence substantially an institution's degree of comprehensiveness.

Recommendations

Although two major conclusions have been drawn, several extremely significant issues remain to be addressed: recommendations for further research and the implications of this study's research for potential applicability for educational practice and/or policy. These issues are presented in this section of the chapter.

Recommendations for further research. Four recommendations for further research are suggested:

- To assure the continued validity of this instrument, it is recommended strongly that a revalidation study, using a juridical approach with Q sorts, be conducted routinely every seven to ten years. Every effort should be made to duplicate the steps used in this study to validate the instrument. In this way, it can be determined if the criteria used by the researcher when developing the index of credit curricular comprehensiveness remain valid. If they do not, certain adjustments to the index may be necessary. A constant review of the literature also should be maintained to anticipate and/or to

help to explain the need for any adjustments. It also may point to a need for rethinking the current commitment to and definition of credit curricular comprehensiveness reflected herein.

- Since this study focused on the need to develop and validate an instrument to measure credit curricular comprehensiveness, based on the conviction that such comprehensiveness is essential for mission attainment, it is recommended that a kindred study be undertaken to determine what factors promote curricular comprehensiveness and what factors hinder its achievement. It is recommended further that two colleges be selected for this research; one representing the most and one representing the least comprehensive institutions from among the 160 institutions in this study's population. On-site, extended visits to these campuses (and perhaps to their service areas as well) should be an essential aspect of this new study. Two approaches lend themselves well to this type of research, the case study approach and the ethnographic approach (to study the cultural milieu of each campus). Either of these two approaches is recommended because previous attempts to ascertain the necessary data by telephone interviews with key academic administrators were unsuccessful (Atwell & Sullins, 1984). On-site visits which allow for personal observation and on-the-spot questioning, hopefully, will provide the necessary data.

- Based on the jurors' comments which stressed the importance of relating curricular comprehensiveness to community needs, it is recommended that a research study be undertaken to determine the degree to which this relationship exists in targeted community colleges and, in so doing, to ascertain especially those factors which promote this relationship and those which obstruct it. It is suggested that the institutions so targeted be selected from among the 160 institutions in this study's population.
- Admittedly, noncredit as well as credit curricular offerings are essential to achieve a more complete picture of an institution's curricular comprehensiveness. However, since this study was devoted exclusively to the measurement of credit curricular comprehensiveness, it is recommended that this research be expanded to include noncredit offerings as well. To this end, the current index could be adjusted to accommodate its inclusion or a new instrument could be developed to deal exclusively with the noncredit offerings. In either case, such an undertaking would ensure a fuller insight into and understanding of curricular comprehensiveness.

Implications for educational practice and/or policy. The implications for educational practice and/or policy are manifold, and often, not surprisingly, overlapping.

- The index of comprehensiveness can help to identify if the

mission of an institution is comprehensive "operationally" or merely in writing; that part of the mission, at least, that refers to the credit curriculum such as the transfer function, occupational/technical or career function, and the remedial/developmental function. Such information obviously would be very beneficial to the members of an accreditation team who are keenly interested in determining if an institution is doing what it says it is doing. The degree to which the mission statement is operationalized often receives top priority by such a team. The index of comprehensiveness certainly would provide a fast method for helping to determine the degree of curricular comprehensiveness of a mission in operational terms. Too, if the index had been used before at the institution to determine curricular comprehensiveness, an indication of a trend might become apparent and investigative questioning to learn why such a trend is taking place would be in order. Is the trend the result of financial or political constraints? Is it the result of deliberateness on the part of the institution? Are the members of the faculty aware of the trend? If not, why not? Is this trend merely one aspect of the result of a broader trend to reshape the mission of the community college?

Naturally, such information also would be of concern to those involved in institutional planning, presidents, academic vice presidents or deans, and division chairs.

- The index of comprehensiveness allows all community colleges to be placed in rank order according to their degree of credit curricular comprehensiveness. Such information would be of great interest to state departments of higher education and state legislatures, the members of whom show an almost unnatural proclivity for reducing all measurements to a single number (Hartle, 1985, p. 21). The index would allow them to keep a finger on the pulse of curricular comprehensiveness in their state and to make judgments and evaluations accordingly. However, one would hope that such evaluations would not be based solely on this ranking. It should serve merely as a point of departure.

  Of course, community college presidents and other key academic administrators also would be interested in seeing where their college stood in relation to all other colleges in the state and to attempt to find out why their institution occupies its present position and if it is reflective of a consistent trend.

- The index of comprehensiveness can offer " concrete evidence" of curricular comprehensiveness and, in so doing, can be used to substantiate hunches, thereby satisfying critics and skeptics. In light of today's conservative electorate demanding accountability from their state representatives, state legislators no longer will be content to accept unsubstantiated claims made by community college leaders.

Furthermore, there is mounting evidence that the members of state governments "are now more competent and professional than ever before" (Hartle, 1985, p. 26). They are articulate as reflected in their capacity to ask more and better questions, and they are more action oriented than they were two decades ago. Increasingly, state legislators and governors want to know what the state is getting for its money. The ability to ask tough questions coupled with the willingness to act implies that, in the future, higher education (and community colleges in particular) will be subjected to greater scrutiny and an unwillingness to consider anything but tangible results and outcomes. The index of comprehensiveness can provide community college leaders, who must appear before such scrutinizing and skeptical bodies, with the means to substantiate allegations that their institutions are comprehensive with respect to the diversity of their educational offerings.

- The index of comprehensiveness can be used for purposes of institutional self-assessment and strategic planning. A substantial portion of any self-evaluation will be dedicated to a consideration of the institution's credit curriculum, its instructional core and perhaps its raison d'etre. Any discussion of the credit curriculum eventually will have to address the issue of comprehensiveness and mission attainment. The index will allow the institution to take its

comprehensiveness "temperature." In so doing, it can be determined whether an institution is below normal, both intrinsically and when compared to its institutional counterparts. If, in fact, this is the case, it should be determined whether this narrowing is by design or by virtue of internal and/or external pressures. Furthermore, is this narrowing or constraint of diverse course offerings a long term action or a short term accommodation? Is it a reflection of mission reshaping at the institution or part of a state attempt to reshape the mission of community colleges in general? If it is determined that an institution's comprehensiveness "temperature" is average or normal, questions still remain. Is this reading consistent and reflective of a trend, or was it merely a temporary aberration?

All this information, naturally, is essential for institutional planning where a competent data base is necessary to provide the foundation for long-range goal planning and short-range action plans. More often than not, such planning and its attendant decision making process are only as reliable as the data base. The index of comprehensiveness helps provide such a data base. Hopefully, it also will force those involved in institutional planning to review the college's commitment to credit curricular comprehensiveness.

- The index can be used to aid division or department chairs to

determine how comprehensive their areas are with respect to the diversity of program and course offerings. Such knowledge can be extremely valuable to the division chairs in their decision making and planning activities and procedures. The index also can determine if a vertical configuration of curricular comprehensiveness has superceded a lateral one in a particular division. This may be a questionable practice in a community college. At any rate, the index of comprehensiveness would reveal this practice. Not only can division chairs gain an understanding of their own particular areas, they can gain an understanding of how they stand vis-à-vis other divisions within their institution and perhaps even in similar divisions in other colleges.

Undoubtedly, this information also can be of value to members of curriculum and program review committees who are involved actively with the coordination, evaluation, and effective planning of the colleges curriculum. It is they who must assess newly proposed and current offerings within the context of the institution as a whole as well as from a divisional point of view. The index of comprehensiveness can be most helpful to them in carrying out their functions.

- The index of comprehensiveness can be used to compare, highlight, and question the relationship of the credit curriculum vis-à-vis the noncredit curriculum. If a narrowing

of credit curricular offerings is revealed, is there a concommitant broadening of noncredit curricular offerings? Is this a trend? Is this reflective of a new curricular emphasis? Is this a manifestation of mission reshaping due to financial constraints? Do noncredit courses produce more income? Are they taught primarily by adjuncts? Are they cheaper to offer? Do the credit and noncredit curricular offerings grow at an inverse rate? When the number of noncredit offerings expand, do the number of credit offerings contract? In other words, do noncredit offerings grow at the expense of the credit offerings? Aren't they both essential to carry out the "comprehensive" and "community" aspects of the institution's mission. Aren't these institutions referred to as "comprehensive community colleges?"

Thus, as has been shown above, the implications for potential application of the index of comprehensiveness for educational practice and/or policy are, indeed, both broad and profound.

References

Alfred, C. A. (1983, April). Institutional responses to changing sources of revenue: Is the community college abandoning the community role? Paper presented at the annual meeting of the American Association of Community and Junior Colleges, New Orleans.

Alfred, R. L. and Smydra, D. F. (1985). Reforming Governance: Resolving challenges to institutional authority In W. L. Deegan and D. Tillery and Associates (Eds.) Reviewing the American community college: Priorities and streategies for effectiveness leadership (pp. 199-228). San Francisco, Jossey Bass.

American Association of Community and Junior Colleges Task Force on Rural Community Colleges. (1976, October). Equal opportunity for the small/rural college (Position Paper No. 1). Washington, D.C.: American Association of Community and Junior Colleges. (ED 165 843).

American Association of Community and Junior Colleges Task Force on Rural Community Colleges (1977). Equal opportunity for the small/rural college (Position Paper No. 3). Washington, D.C.: American Association of Community and Junior Colleges, 1-7.

American Association of Community and Junior Colleges. (1982a). Community junior and technical college directory, 1982. Washington, D.C.: American Association of Community and Junior Colleges.

American Association of Community and Junior Colleges. 1982b) Survey listing of rural community colleges.

Andrew, L.D. with Fortune, J., & McCluskey, L. (1980, September). Analysis of uses of HEGIS data (Preliminary Report). Blacksburg, Virginia: College of Education, Virginia Polytechnic Institute and State University.

Atwell, C.A. (1981). Doing more with less. Community and Junior College Journal, 52(2)30-32.

Atwell, C.A., Vaughan, G.B., & Sullins, W.R. (1982, Summer). Reexamining community services in the community college: Toward consensus and commitment (Topical Paper No. 76). Los Angeles: ERIC Clearinghouse for Junior Colleges and National Council on Community Services and Continuing Education.

Atwell, C.A., & Sullins, W.R. (1984), Curricular comprehensiveness in small rural community colleges. "Horizon Issues" Monograph Series. Los Angeles: ERIC Clearinghouse for Junior Colleges/American Association of Community and Junior Colleges/Council of Universities and Colleges.

Beckwith, M.M. (1980a). Science education in two-year colleges: Agriculture and natural resources. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Beckwith, M.M. (1980b). Science education in two-year colleges: Interdisciplinary social sciences. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Beckwith, M.M. (1980c). Science education in two-year colleges: Mathematics. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Black, H.C. (1979). Black's law dictionary with pronunciation (5th ed). St. Paul, MN: West Publishing Company.

Bogue, J.P. (1950). The community college. New York: McGraw-Hill.

Bowen, H.R., Clecak, P., Doud, J.P., and Douglas, G.K. (1977). Investment in learning: The individualand social value of american higher education. San Francisco: Jossey-Bass.

Breneman, D.W., & Nelson, S.C. (1981). Financing community colleges: An economic perspective. Washington, D.C.: Brookings Institute.

Carnegie Commission on Higher Education (1970). The open door college. New York: McGraw-Hill.

Clark, B.R., 1960. The "cooling-out" function in higher education. American Journal of Sociology, 65(6), 569-576.

Cohen, A.M. (1978, August). Current research on small/rural community colleges: Separating fact from fiction. Paper presented at Conference on Small/Rural Community Colleges. Blacksburg, VA. (ED 165 845).

Cohen, A.M. (1985). The community college in the american educational system. In Concepts for learning: The major sectors of American higher education. Washington, D.C.: National Institute of Education in cooperation with the American Association for Higher Education.

Cohen, A.M. and Brawer, F.B. (1980). Renewing the humanities: Data and Direction In R. Yarrington (Ed.), Strengthening humanities in community colleges (pp. 7-34) Washington, D.C.: American Association of Community and Junior Colleges.

Cohen, A.M., & Brawer, F.B. (1982). The American community college. San Francisco: Jossey-Bass.

Cross, K.P. (1981a). Community colleges on the plateau. Journal of Higher Education, 52(2), 113-123.

Cross, K.P. (1981b). Adults as learners: Increasing participation and facilitating learning. San Francisco: Jossey-Bass.

Cross, K.P. (1985). Determining missions and priorities for the fifth generation In W.L. Deegan and D. Tillery and Associates (Eds.) Renewing the American community college: Priorities and strategies for effective leadership (pp. 34-50). San Francisco: Jossey-Bass.

Deegan, W.L. & Tillery, D. (1985). The evolution of two-year colleges through four generations In W.L. Deegan and D. Tillery and Associates (Eds.), Renewing the American community college: Priorities and strategies for effective leadership (pp. 3-33). San Franciso: Jossey-Bass.

Deegan, W.L., Tillery, D. & Assoicates (Eds.) (1985). Renewing the American community college: Priorities and strategies for effective leadership. San Francisco: Jossey-Bass.

Delworth, U., Hanson, G.R. and Associates. (1980). Student services: A handbook for the profession. San Francisco: Jossey-Bass.

Devall, W.B. (1968). Community colleges: A dissenting view. Educational Record, 49(2), 168-172.

Eaton, J.M., A vital component of the delivery system. Community and Junior College Journal, 1981, 52(2), 15-16.

Edwards, S.J. (1980a). Science education in two-year colleges: Biology. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Edwards, S.J. (1980b). Science education in two-year colleges: Earth and Space. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Edwards, S.J. (1980c). Science education in two-year colleges: Environmental Science. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Educational Policies Commission of the National Education Association. (1964). Universal opportunity for education beyond the high school. Washington, D.C.: National Education Association.

Eells, W.C. (1931). The Junior College. Boston: Houghton Mifflin.

Eells, W.C. (1941a). Present status of terminal education, (Terminal Education Monograph 2). Washington, D.C.: American Association of Junior Colleges.

Eells, W.C. (1941b). Why junior college terminal edcucation? Washington, D.C.: American Association of Junior Colleges.

Encyclopaedia Britannica. (1984). Blue-ribbon jury. The New Encyclopaedia Britannica: Micropaedia, Ready Reference and Index, Volume II, (15th ed.), Chicago: Encyclopaedia Britannica, Inc.

Ewell, P.T. (1984). The self-regarding institution: Information for excellence. An NCHEMS Executive Overview Boulder, Colorado: National Center for Higher Education Management Systems, Inc.

Ewell, P.T. (Ed.). (1985). Assessing educational outcomes, New Directions for Institutional Research, 47, San Francisco: Jossey-Bass.

Fields, R.R. (1962). The community college movement. New York: McGraw-Hill.

Folger, J.K. (1980). Implications of state govenment changes. In P. Jedamus, M.W. Peterson, and Associates, Improving academic management: A handbook of planning and institutional research. (pp. 48-64). San Francisco: Jossey-Bass.

Friedlander, J. (1980). Science education in two-year colleges: Economics. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Friedlander, J. and Edwards, S.J. (1980). Science education in two-year colleges: Engineering. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Gausman, C.H. (1978). Curriculum comprehensiveness in the small/rural community college--strategies for getting more out of limited resources. In W.R. Sullins and R.G.Templin (Eds.) Proceedings of the first national confernece on small/rural colleges. Blacksburg, Virginia Polytechnic Institute and State University. (ED 167 223).

Gianini, Jr., P.C. (1979, April). Islands of innovation: New and small: Community services in the small/rural community college. (Paper presented at 59th annual Meeting, American Association of Community and Junior Colleges, 1-9.) (ED 170 004)

Gleazer, Jr., E.J. (1968). This is the community college. New York: Houghton Mifflin.

Gleazer, Jr., E.J. (1980). The community college: Values, vision, and vitality. Washington, D.C.: American Association of Community and Junior Colleges.

Guilford, J.P. (1954). Psychometric methods. New York: McGraw-Hill Book Company.

Harper, W.R. (1900). The prospects of the small colleges. Chicago: University of Chicago Press.

Harris, N.C., & Grede, J.F. (1977). Career education in colleges: A guide for planning two- and four-year occupational programs for successful employment. San Francisco: Jossey-Bass.

Hartle, T. (1985, October). The growing interest in measuring the educational achievement of college students. Background paper prepared for the American Association for Higher Education under contract to the National Institute of Education for the National conference on Assessment in Higher Education at the University of South Carolina, Columbia, SC.

Hays, W.L. (1963). Statistics. New York: Holt, Rinehart & Winston, Inc.

Hill, A. (1980a). Science education in two-year colleges: Psychology. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Hill, A. (1980b). Science education in two-year colleges: Sociology. Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Hodgkinson, H.L. (1985). All one system: Demographics of education-kindergarten through graduate school. Washington, D.C.: Institute for Educational Leadership.

Hogarty, G.E. (1966). Dischage readiness: The components of casework judgment. Social Casework 47:165-171.

Horst, P. (1966). Psychological measurement and prediction. Belmont, CA: Wadsworth Publishing Company, Inc.

Humanities in two-year colleges: Reviewing curriculum and instruction. (1975). Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Humanities in two-year colleges: Trends in curriculum. (1978a). Los Angeles: Center for the Study of Community Colleges and ERIC Clearninghouse for Junior Colleges.

Humanities in two-year colleges: What affects the program? (1978b). Los Angeles: Center for the Study of Community Colleges and ERIC Clearinghouse for Junior Colleges.

Hyde, W. (1982). A new look at community college access. Denver: Education Commission of the States. (ED 217905)

Jencks, C. and Riesman, D. (1968). The academic revolution. Garden City, New York: Doubleday.

Jenkins, R.L., Stauffacher, J. & Hester, R.A. (1959). Symptom rating scale for use with psychotic patients. Archives of General Psychiatry (1) 197-204.

Jennings, F.G. (1970, March/April). The two-year stretch: Junior colleges in America. Change in Higher Education 2, 15-25.

Johnson, B.L. (1969). Islands of innovation expanding: changes in the community college. Beverly Hills, California: Glenco Press.

Karabel, J. (1972). Community colleges and social stratification. Harvard Educational Review 42(4) 521-562.

Keats, J. (1965). The sheepskin psychosis. Philadelphia: Lippincott.

Kendall, M.G. (1962). Rank correlation methods. London: Hafner Publishing Company.

Kerlinger, F.N. (1973). Foundations of behavioral research (2nd ed.). New York: Holt, Rinehart & Winston, Inc.

Koos, L.V. (1925). The junior college movement. Boston: Ginn.

Lange, A.F. (1950). The junior college, with special reference to California. In J.P. Bogue, The Community College. New York: McGraw-Hill.

Lombardi, J. (1979). Proposition 13: Is the worst over for community colleges? Community College Review, 6(4), 7-14.

Luckenbill, J.D., & McCabe, R.H. (1978). General education in a changing society: General education program, basic skills reqirements, standards of academic progress at Miami-Dade coummunity college. Dubuque, IA: Kendall/Hunt Publishing Company.

Lyerly, S. B. (1973). Handbook of psychiatric rating scales. Rockville, Maryland: National Institute of Mental Health.

Lynes, R. (1966, November). How good are the junior colleges? Harper's. 233(1398) 53-60.

Malitz, G.S. (1981). A classification of instructional programs. Washington, D.C.: National Center for Educational Statistics.

Martorana, S.V. & Broomall, J. (1982). State legislation affecting community, junior and two-year technical colleges 1981. University Park: Center for the Study of Higher Education, Pennsylvania State University.

Martorana, S.V. & Corbett, P.C. (1983). State legislation affecting community, junior and two-year technical colleges, 1982. University Park: Center for the Study of Higher Education, Pennsylvania State University.

Martorana, S.V. & Kuhns, E. (1985). Designing new structures for state and local collaboration In W.L. Deegan and D. Tillery and Associates (Eds.), Renewing the American community college: Priorities and strategies for effective leadership. (pp. 229-251). San Francisco: Jossey-Bass.

Martorana, S.V. & Smutz, W.D. (1980). State legislation affecting community, junior, and two-year technical colleges, 1979. University Park: Center for the Study of Higher Education, Pennsylvania State University.

McCabe, R.H. (1981) Now is the time to reform the american community college. Community and Junior College Journals 51(8), 6-10.

McReynolds, P. & Ferguson, J. T. (1953). Clinical management for the hospital adjustment scale. Palo Alto, CA: Consulting Psychologists Press, Inc.

Medsker, L.L., and Tillery, D. (1971). Breaking the access barriers: A profile of two-year colleges. New York: McGraw-Hill.

Monroe, C.R. (1972). Profile of the community college: A handbook. San Francisco: Jossey-Bass.

National Center for Education Statistics. (1981). Higher education general information survey (HEGIS XVI): Degrees and other formal awards conferred between July 1, 1980 and June 30, 1981 (Data on magnetic tape). Washington, D.C.: Department of Health, Education, and Welfare.

National Center for Education Statistics.(1981). Higher education general information survey (HEGIS XVI): Degrees and other formal awards conferred between July 1, 1980 and June 30, 1981 (Data on magnetic tape). Washington, D.C.: Department of Health Education, and Welfare. (Data on magnetic tape).

National Center for Education Statistics.(1980). Higher education general information survey (HEGIS XV): Fall enrollment institutions of higher education 1980. (Data on magnetic tape). Washington, D.C.: Department of Health, Education, and Welfare.

Overall, J.E. & Gordon, D.R. (1962). The brief psychiatric rating scale. Psychological Reports (10)799-812.

Palinchak, R.S. (1973). The evolution of the community college. Metuchen, N.J.: The Scarecrow Press, Inc.

Pincus, F.L.(1980). The false promises of community colleges: Class conflict and vocational education. Harvard Educational Review, 50(3), 332-361.

President's Commission on Higher Education. (1947). Higher education for American democracy. Washington, D.C.: Government Printing Office.

President's Committee on Education Beyond the High School. (1957). Second report to the president. Washington, D.C.: Government Printing Office.

Project on General Education Models, Society for Values in Higher Education. (1980) General education: Issues and resources. Washington, D.C.: Association of American Colleges.

Ravitch, D. (1978). The revisionists revised: A critique of the radical attack on the schools. New York: Basic Books.

Reynolds, J.W. (1969). The comprehensive junior college curriculum. Berkeley: McCutchan Publishing Corporation.

Richardson, R.C., Jr., & Leslie, L. (1980). The impossible dream? Financing community college's evolving system. (Horizons Issue Monograph Series). Washington, D.C.: American Association of Community And Junior Colleges.

Richardson, Jr., C.R. and Rhodes, W.R. (1985). Effective strategic planning: Balancing demands for quality and fiscal realities In W.L. Deegan, D. Tillery and Associates (Eds.), Renewing the American community college: Priorities and strategies for effective leadership. (pp. 284-302). San Francisco: Jossey-Bass.

Roueche, J.E., Baker, G.A. and Brownell, R.L. (1971). Accountability and the community college: Directions for the 70s. Washington, D.C.: American Association of Junior Colleges.

Schmeltekopf, D. D. (1980). Report of the national planning workshop, community college humanities association. In R. Yarrington (Ed.) Strengthening humanities in community colleges (pp. 106-112). Washington, D.C.: American Association of Community and Junior Colleges.

Scott, N.A. (1980). Returning women students: A review of research and descriptive studies. Special Monograph. Washington, D.C. National Association of Women Administrators, Deans and Counselors.

Smallwood, K.B. (1980). What do adult women college students really need? Journal of College Student Personnel, 21, 65-73.

Stepenson, W. (1953). The study of behavior: Q-technique and its methodology, Chicago: University of Chicago Press.

Sullins, W.R. (1981). Leadership in the 1980s. Community and Junior College Journal, 52(2), 27-29.

TenHoeve, Jr., T. (1981). To serve "even the last man in line." Community and Junior College Journal, 52(2), 17-20.

Thornton, J.W., Jr. (1972). The community junior college (3rd ed.). New York: Wiley.

Tough, A. (1981). Interests of adult learners. In A.W. Chickering and Associates(Eds.), The modern american college: Responding to the new realities of diverse students and a changing society. San Francisco: Jossey-Bass.

Ulmann, L.P. & Gurel, L. (1962). Validity of symptom ratings from psychiatric records. Archives of General Psychiatry (7) 130-134.

Vaughan, G.B. (1982). The community college in America: A pocket history. AACJC Pocket Reader 4. Washington, D.C.: American Association of Community and Junior Colleges.

Vaughan, G.B. (1984, April). Paper presented at the annual meeting of the American Association of Community, Junior Colleges in Washington, D.C.

Vaughan, G.B. (1985, October/November). Can community colleges offer opportunity and excellence? Community, Technical, and Junior College Journal, 56(2) 40-43.

Warren, J. (1985). The changing characteristics of community college students. In W.L. Deegan, D. Tillery and Associates (Eds.), Renewing the American community college: Priorities and strategies for effective leadership. (pp. 53-79). San Francisco: Jossey-Bass.

Wattenbarger, J.L. (1985). Dealing with new competition for public funds: Guidelines for financing community colleges. In W.L. Deegan & D. Tillery and Associates Renewing the American community college: Priorities and strategies for effective leadership. (pp. 252-283). San Francisco: Jossey-Bass.

Williams, G.D. (1969, January). William Rainey Harper in Illinois Illinois Education, 57(5), 208-209; 214.

Wittenborn, J.R. (1955). Manual: Wittenborn psychiatric rating scales. New York: The Psychological Corporation.

Zwerling, L.S. (1976). Second best: The crisis of the community college. New York: McGraw-Hill.

Zwerling, L.S. (1980). The new 'new student': The working adult. In G.G. Vaughan (Ed.) Questioning the community college role (pp. 742-775). New Directions for community colleges, 32, San Francisco: Jossey-Bass.

APPENDIX A

A Sample of the Documents Contained in the "Field Test" Packet

A.1

Sample of A.1 Document in Summary Chart Form

SRCCF

Summary of Curricular Comprehensiveness in Chart Form

Occupational/ Technical Clusters	Public Service Related Technologies	Nondegree	
		Degree	
	Business and Commerce Technologies	Nondegree	3
		Degree	2
	Natural Science Technologies	Nondegree	2
		Degree	
	Mechanical and Engineering Technologies	Nondegree	6
		Degree	
	Health Services and Paramedical Technologies	Nondegree	2
		Degree	
	Data Processing Technologies	Nondegree	1
		Degree	
Developmental Remedial Courses	Reading		X
	Writing/Composition		X
	Mathematics		X
Courses/Programs	Performance courses in vocal and/or instrumental music		X
	Studio courses in art		X
	Courses in art and/or music appreciation		X
	At least one course in health, first aid, or nutrition		X
	One year of physical education activity		X
	One year of philosophy/humanities		X
	One year each of 2 or more literature sequences		X
	One year each of 2 or more history or government sequences		X
	One year of one or more behavioral/social sciences		X
	One year of mathematics beyond calculus		
	Two years of one or more laboratory sciences		X
	One year each of 3 or more laboratory sciences		X
	Two years in one or more foreign languages		X
University parallel sequences leading to transfer acceptance at the junior level	COMPUTER SCIENCES		X
	NATURAL OR PHYSICAL SCIENCES		X
	MATHEMATICS		X
	LIBERAL ARTS		X
	FINE/PERFORMING ARTS		X
	TEACHER EDUCATION		X
	BUSINESS ADMINISTRATION		X
	AGRICULTURE		X
	ENGINEERING AND ARCHITECTURE		X
	ARCHITECTURE		X

APPENDIX A (continued)
A.2
Sample of Document in Narrative Form

Narrative - SRCCF

SRCCF provides complete university parallel sequences leading to transfer acceptance at the junior level in Architecture, Engineering and Architecture, Agriculture, Business Administration, Teacher Education, Fine/Performing Arts, Liberal Arts, Mathematics, Natural or Physical Sciences, and Computer Science.

In support of this transfer program, SRCCF offers coursework in foreign languages (consisting of two years in one or more foreign languages), behavioral/social sciences (psychology, sociology, etc.), history or government, literature, philosophy/humanities and laboratory sciences. The latter includes one year each of three or more lab sciences as well as two years of one or more lab sciences. Furthermore, coursework is offered in physical education activity and in health first aid or nutrituon. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation, studio courses in art and performance courses in vocal and/or instrumental music.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCF offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one nondegree program in the Data Processing Technologies cluster, two nondegree programs in the Health Services and Paramedical Technologies cluster, six nondegree programs in the Medical and Engineering Technologies cluster, two nondegree programs in the Natural Sciences Technologies cluster, and two degree and three nondegree programs in the Business and Commerce Technologies cluster.

APPENDIX B

Entire Contents of Packets Sent to "Jurors," including 2 sets of documents for each of 11 institutions in the study's sample, instructions, and a glossary.

B.1

Summary Chart of document

SRCCP

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	X
Engineering and Architecture	X
Agriculture	X
Business Administration	X
Teacher Education	X
Fine/Performing Arts	X
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	X
Courses/Programs	
Two years in one or more foreign languages	X
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or government sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	X
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	X
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies		1
Health Services & Paramedical Technologies		2
Mechanical & Engineering Technologies		6
Natural Science Technologies		2
Business and Commerce Technologies	2	3
Public Service Related Technologies		

APPENDIX B (continued)
B.2
Narrative form of document

Narrative - SRCCF

SRCCF provides complete university parallel sequences leading to transfer acceptance at the junior level in Architecture, Engineering and Architecture, Agriculture, Business Administration, Teacher Education, Fine/Performing Arts, Liberal Arts, Mathematics, Natural or Physical Sciences, and Computer Science.

In support of this transfer program, SRCCF offers coursework in foreign languages (consisting of two years in one or more foreign languages), behavioral/social sciences (psychology, sociology, etc.), history or government, literature, philosophy/humanities and laboratory sciences. The latter includes one year each of three or more lab sciences as well as two years of one or more lab sciences. Furthermore, coursework is offered in physical education activity and in health first aid or nutrituon. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation, studio courses in art and performance courses in vocal and/or instrumental music.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCF offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one nondegree program in the Data Processing Technologies cluster, two nondegree programs in the Health Services and Paramedical Technologies cluster, six nondegree programs in the Medical and Engineering Technologies cluster, two nondegree programs in the Natural Sciences Technologies cluster, and two degree and three nondegree programs in the Business and Commerce Technologies cluster.

APPENDIX B (continued)
B.3
Summary Chart of document

SRCCG

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	
Engineering and Architecture	
Agriculture	
Business Administration	X
Teacher Education	
Fine/Performing Arts	X
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	X
Courses/Programs	
Two years in one or more foreign languages	X
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	X
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	X
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies	1	
Health Services & Paramedical Technologies	1	
Mechanical & Engineering Technologies	3	
Natural Science Technologies	2	
Business and Commerce Technologies	4	1
Public Service Related Technologies	1	1

APPENDIX B (continued)
B.4
Narrative form of document

Narrative - SRCCG

SRCCG provides complete university parallel sequences leading to transfer acceptance at the junior level in Business Administration, Fine/ Performing Arts, Liberal Arts, Mathematics, Natural or Physical Sciences, and Computer Science.

In support of this transfer program, SRCCG offers coursework in foreign languages (consisting of two years in one or more foreign languages), behavioral/social sciences (psychology, sociology, etc.), mathematics beyond calculus, history or government, literature, philosophy/humanities, and laboratory sciences. The latter includes one year each of 3 or more lab sciences as well as two years of one or more lab sciences. Furthermore, coursework is offered in physical education activity and in health, first aid or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation and studio courses in art.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCG offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one degree program in the Data Processing Technologies cluster, one degree program in the Health Services and Paramedical Technologies, 3 degree programs in the Mechanical and Engineering Technologies cluster, 2 degree programs in the Natural Science Technologies cluster, 4 degree programs and one nondegree program in the Business and Commerce Technologies cluster and one degree program and one nondegree program in the Public Service Related Technologies cluster.

APPENDIX B (continued)
B.5
Summary Chart of document

SRCCH

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	
Engineering and Architecture	
Agriculture	X
Business Administration	X
Teacher Education	X
Fine/Performing Arts	X
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	X
Courses/Programs	
Two years in one or more foreign languages	
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	X
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies	1	
Health Services & Paramedical Technologies	3	
Mechanical & Engineering Technologies	4	
Natural Science Technologies	2	
Business and Commerce Technologies	4	1
Public Service Related Technologies	1	

APPENDIX B (continued)
B.6
Narrative form of document

Narrative - SRCCH

SRCCH provides complete university parallel sequences leading to transfer acceptance at the junior level in Agriculture, Business Administration, Teacher Education, Fine/Performing Arts, Liberal Arts, Mathematics, Natural or Physical Sciences, and Computer Science.

In support of this transfer program, SRCCH offers coursework in behavioral/social sciences (psychology, sociology, etc.), history or government, literature, and laboratory sciences. The latter includes one year each of 3 or more lab sciences as well as two years of one or more lab sciences. Furthermore, coursework is offered in physical education activity and in health, first aid or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation, studio courses in art, and performance courses in vocal and/or instrumental music.

Additional academic and basic skills support is available through developmental remedial courses in mathematics, writing/composition, and reading.

SRCCH offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one degree program in the Data Processing Technologies cluster, 3 degree programs in the Health Services and Paramedical Technolgies cluster, 4 degree programs in the Mechanical and Engineering Technologies cluster, 2 degree programs in the Natural Sciences Technologies cluster, 4 degree and 1 nondegree programs in the Business and Commerce Technologies cluster and 1 degree program in the Public Service Related Technologies cluster.

APPENDIX B (continued)
B.7
Summary Chart of document

SRCCJ

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	
Engineering and Architecture	X
Agriculture	
Business Administration	X
Teacher Education	X
Fine/Performing Arts	
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	X
Courses/Programs	
Two years in one or more foreign languages	X
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	X
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies		
Health Services & Paramedical Technologies		
Mechanical & Engineering Technologies	1	4
Natural Science Technologies		2
Business and Commerce Technologies	4	4
Public Service Related Technologies		

APPENDIX B (continued)
B.8
Narrative form of document

Narrative - SRCCJ

SRCCJ provides complete university parallel sequences leading to transfer acceptance at the junior level in Engineering and Architecture, Business Administration, Teacher Education, Liberal Arts, Mathematics, Natural or Physical Sciences, and Computer Science.

In support of this transfer program SRCCJ offers coursework in foreign languages (consisting of two years in one or more foreign languages), behavioral/social sciences (psychology, sociology, etc.), history or government, literature, philosophy/humanities and laboratory sciences. The latter includes one year each of three or more lab sciences as well as two years of one or more lab sciences. Furthermore, coursework is offered in physical education activity and in health, first aid, or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation, and studio courses in art.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCJ offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one degree and four nondegree programs in the Medical and Engineering Technologies cluster, two nondegree programs in the Natural Sciences Technologies cluster, and four degree and four nondegree programs in the Business and Commerce Technologies cluster.

APPENDIX B (continued)
B.9
Summary Chart of document

SRCCK

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	
Engineering and Architecture	X
Agriculture	X
Business Administration	X
Teacher Education	X
Fine/Performing Arts	
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	X
Courses/Programs	
Two years in one or more foreign languages	
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	X
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	X
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	
Performance courses in vocal and/or instrumental music	X
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies	1	
Health Services & Paramedical Technologies	1	2
Mechanical & Engineering Technologies	2	5
Natural Science Technologies		
Business and Commerce Technologies	2	2
Public Service Related Technologies		

APPENDIX B (continued)
B.10
Narrative form of document

Narrative - SRCCK

SRCCK provides complete university parallel sequences leading to transfer acceptance at the junior level in Engineering and Architecture, Agriculture, Business Administration, Teacher Education, Liberal Arts, Mathematics, Natural or Physical Sciences, and Computer Science.

In support of this transfer program, SRCCK offers coursework in mathematics beyond calculus, behavioral/social sciences (psychology, sociology, etc.), history or government, literature, philosophy/humanities, and laboratory sciences. The latter includes one year each of 3 or more lab sciences. Furthermore, coursework is offered in physical education activity and in health, first aid, or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation and performance courses in vocal and/or instrumental music.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCK offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one degree program in the Data Processing Technologies cluster, one degree program and 2 nondegree programs in the Health Services and Paramedical Technologies cluster, 2 degree and 5 nondegree programs in the Mechanical and Engineering Technologies cluster, and 2 degree and 2 nondegree programs in the Business and Commerce Technologies cluster.

APPENDIX B (continued)
B.11
Summary Chart of document

SRCCL

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	X
Engineering and Architecture	X
Agriculture	X
Business Administration	X
Teacher Education	X
Fine/Performing Arts	
Liberal Arts	
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	

Courses/Programs	
Two years in one or more foreign languages	
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	X
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	X
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	X

Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies		
Health Services & Paramedical Technologies		
Mechanical & Engineering Technologies	2	1
Natural Science Technologies		
Business and Commerce Technologies	2	2
Public Service Related Technologies		

APPENDIX B (continued)
B.12
Narrative form of document

Narrative - SRCCL

SRCCL provides complete university parallel sequences leading to transfer acceptance at the junior level in Architecture, Engineering and Architecture, Agriculture, Business Administration, Teacher Education, Mathematics, and Natural or Physical Sciences.

In support of this transfer program, SRCCL offers coursework in mathematics beyond calculus, behavioral/social sciences (psychology, sociology, etc.), history or government, literature, philosophy/humanities, and laboratory sciences. The latter includes one year each of 3 or more lab sciences as well as two years of one or more lab sciences. Furthermore, coursework is offered in physical education activity and in health, first aid or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation, studio courses in art, and performance courses in vocal and instrumental music.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCL offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of 2 degree programs and one nondegree program in the Mechanical and Engineering Technologies cluster and 2 degree and 2 nondegree programs in the Business and Commerce Technologies cluster.

APPENDIX B (continued)
B.13
Summary Chart of document

SRCCH

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	
Engineering and Architecture	
Agriculture	X
Business Administration	X
Teacher Education	
Fine/Performing Arts	
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	
Courses/Programs	
Two years in one or more foreign languages	X
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X
Occupational/Technical Clusters	

***These numbers indicate the number of different degree and nondegree programs offered in each cluster**

	Degree *	Nondegree *
Data Processing Technologies		
Health Services & Paramedical Technologies	1	
Mechanical & Engineering Technologies	1	
Natural Science Technologies		
Business and Commerce Technologies	2	
Public Service Related Technologies		

APPENDIX B (continued)
B.14
Narrative form of document

Narrative - SRCCM

SRCCM provides complete university parallel sequences leading to transfer acceptance at the junior level in Agriculture, Business Administration, Liberal Arts, Mathematics, and Natural or Physical Sciences.

In support of this transfer program, SRCCM offers coursework in foreign languages (consisting of two years in one or more foreign languages), behavioral/social sciences (psychology, sociology, etc.), history or government, literature, and laboratory sciences. The latter included one year each of three or more lab sciences as well as two years of one or more sciences. Furthermore, coursework is offered in physical education activity and in health, first aid or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation and studio courses in art.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SCRRM offers only associate degrees in its occupational/technical programs. These consist of one degree program in the Health Services and Paramedical Technologies cluster, one degree program in Mechanical and Engineering Technologies cluster, and two degree programs in the Business and Commerce Technologies cluster.

APPENDIX B (continued)
B.15
Summary Chart of document

SRCCP

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level

Architecture	
Engineering and Architecture	
Agriculture	
Business Administration	X
Teacher Education	X
Fine/Performing Arts	
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	

Courses/Programs

Two years in one or more foreign languages	X
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	
One year of mathematics beyond calculus	
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	X
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	
Performance courses in vocal and/or instrumental music	

Developmental Remedial Courses

Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies		
Health Services & Paramedical Technologies		1
Mechanical & Engineering Technologies	1	2
Natural Science Technologies		
Business and Commerce Technologies	3	
Public Service Related Technologies	1	

APPENDIX B (continued)
B.16
Narrative form of document

Narrative - SRCCP

SRCCP provides complete university parallel sequences leading to transfer acceptance at the junior level in Business Administration, Teacher Education, Liberal Arts, Mathematics, and Natural or Physical Sciences.

In support of this transfer program SRCCP offers coursework in foreign languages (consisting of two years in one or more foreign languages), behavioral/social sciences (psychology, sociology, etc.), history or government, literature, philosophy/humanities, and laboratory sciences. The latter includes one year each of 3 or more lab sciences. Furthermore, coursework is offered in physical education activity and in health, first aid, or nutrition. Also included are courses in art and/or music appreciation.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCP offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one nondegree program in the Health Services and Paramedical Technologies cluster, one degree program and 2 nondegree programs in the Mechanical and Engineering Technologies cluster, 3 degree programs in the Business and Commerce Technologies cluster, and one degree program in the Public Service Related Technologies cluster.

APPENDIX B (continued)
B.17
Summary Chart of document

SRCCQ

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	X
Engineering and Architecture	X
Agriculture	X
Business Administration	X
Teacher Education	X
Fine/Performing Arts	X
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	X
Courses/Programs	
Two years in one or more foreign languages	
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	X
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	X
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	X
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies		
Health Services & Paramedical Technologies	1	
Mechanical & Engineering Technologies		
Natural Science Technologies		
Business and Commerce Technologies	2	
Public Service Related Technologies		

APPENDIX B (continued)
B.18
Narrative form of document

Narrative - SRCCQ

SRCCQ provides complete university parallel sequences leading to transfer acceptance at the junior level in Architecture, Engineering and Architecture, Agriculture, Business Administration, Teacher Education, Fine/Performing Arts, Liberal Arts, Mathematics, Natural or Physical Sciences, and Computer Science.

In support of this transfer program, SRCCQ offers coursework in mathematics beyond calculus, behavioral/social sciences (psychology, sociology, etc.), history or government, literature, philosophy/humanities, and laboratory sciences. The latter includes one year each of 3 or more lab sciences as well as two years of one or more lab sciences. Furthermore, coursework is offered in physical education activity and in health, first aid, or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation, studio courses in art, and performance courses in vocal and/or instrumental music.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCQ offers only associate degrees in its occupational/technical programs. These consist of one degree program in the Health Services and Paramedical Technologies cluster and 2 degree programs in the Business and Commerce Technologies cluster.

APPENDIX B (continued)
B.19
Summary Chart of document

SRCCS

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	
Engineering and Architecture	
Agriculture	
Business Administration	X
Teacher Education	
Fine/Performing Arts	
Liberal Arts	X
Mathematics	
Natural or Physical Sciences	
Computer Sciences	X
Courses/Programs	
Two years in one or more foreign languages	
One year each of 3 or more laboratory sciences	
Two years of one or more laboratory sciences	
One year of mathematics beyond calculus	
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or goverment sequences	
One year each of 2 or more literature sequences	
One year of philosophy/humanities	
One year of physical education activity	
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

*These numbers indicate the number of different degree and nondegree programs offered in each cluster

	Degree *	Nondegree *
Data Processing Technologies		
Health Services & Paramedical Technologies		1
Mechanical & Engineering Technologies	1	1
Natural Science Technologies	1	1
Business and Commerce Technologies	6	1
Public Service Related Technologies	1	

APPENDIX B (continued)
B.20
Narrative form of document

Narrative - SRCCS

SRCCS provides complete university parallel sequences leading to transfer acceptance at the junior level in Business Administration, Liberal Arts, and Computer Science.

In support of this transfer program, SRCCS offers coursework in behavioral/social sciences (psychology, sociology, etc.) and health, first aid or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation and studio courses in art.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCS offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one nondegree program in the Health Services and Paramedical Technologies cluster, one degree program and one nondegree program in the Mechanical and Engineering Technologies cluster, one degree program and one nondegree program in the Natural Science Technologies cluster, 6 degree programs and one nondegree program in the Business and Commerce Technologies cluster, and one degree program in the Public Service Related Technologies cluster.

APPENDIX B (continued)
B.21
Summary Chart of document

SRCCT

Summary of Curricular Comprehensiveness in Chart Form

University parallel sequences leading to transfer acceptance at the junior level	
Architecture	X
Engineering and Architecture	X
Agriculture	X
Business Administration	X
Teacher Education	X
Fine/Performing Arts	X
Liberal Arts	X
Mathematics	X
Natural or Physical Sciences	X
Computer Sciences	X
Courses/Programs	
Two years in one or more foreign languages	X
One year each of 3 or more laboratory sciences	X
Two years of one or more laboratory sciences	X
One year of mathematics beyond calculus	X
One year of one or more behavioral/social sciences	X
One year each of 2 or more history or government sequences	X
One year each of 2 or more literature sequences	X
One year of philosophy/humanities	X
One year of physical education activity	X
At least one course in health, first aid or nutrition	X
Courses in art and/or music appreciation	X
Studio courses in art	X
Performance courses in vocal and/or instrumental music	X
Developmental Remedial Courses	
Mathematics	X
Writing/Composition	X
Reading	X

Occupational/Technical Clusters

***These numbers indicate the number of different degree and nondegree programs offered in each cluster**

	Degree *	Nondegree *
Data Processing Technologies	1	
Health Services & Paramedical Technologies	1	
Mechanical & Engineering Technologies	1	6
Natural Science Technologies	1	
Business and Commerce Technologies	5	
Public Service Related Technologies	1	1

APPENDIX B (continued)
B.22
Narrative form of document

Narrative - SRCCT

SRCCT provides complete university parallel sequences leading to transfer acceptance at the junior level in Architecture, Engineering and Architecture, Agriculture, Business Administration, Teacher Education, Fine/Performing Arts, Liberal Arts, Mathematics, Natural or Physical Sciences, and Computer Science.

In support of this transfer program, SRCCT offers coursework in foreign languages (consisting of two years in one or more foreign languages), mathematics beyond calculus, behavioral/social sciences (psychology, sociology, etc.), history or government, literature, philosophy/humanities, and laboratory sciences. The latter includes one year each of 3 or more lab sciences as well as two years of one or more lab sciences. Furthermore, coursework is offered in physical education activity and in health, first aid or nutrition. The fine and performing arts also are part of the program offerings. They include courses in art and/or music appreciation, studio courses in art, and performance courses in vocal and/or instrumental music.

Additional academic and basic skills support is available through developmental/remedial courses in mathematics, writing/composition, and reading.

SRCCT offers both associate degrees and so-called "nondegrees" in its occupational/technical programs. These consist of one degree program in the Data Processing Technologies cluster, one degree program in the Health Services and Paramedical Technologies cluster, one degree program and 6 nondegree programs in the Mechanical and Engineering Technologies cluster, one degree program in the Natural Sciences Technologies cluster, 5 degree programs in the Business and Commerce Technologies cluster, and one degree program and one nondegree program in the Public Service Related Technologies cluster.

APPENDIX B (continued)
B.23
Instructions

Step 1 - Reading of all Documentation:

Read all the attached descriptive material on credit curricular comprehensiveness for each of the eleven colleges. The material consists of a set of two documents (one in narrative form and the other in chart form) for each institution for a total of twenty-two documents.

Step 2 - Orangization into Piles:

Divide the material into three piles A, B, and C:

- In pile A, place both documents for each of the 4 colleges which you judge to be the most comprehensive.
- In pile C, place both documents for each of the 4 colleges which you judge to be the least comprehensive.
- In pile B, place both documents for each of the remaining colleges, those which you judge to fall more centrally.

Step 3 - Review and Revision:

After reviewing the colleges selected for placement in one of the three piles, you may wish to make some revisions. If so, feel free to move a set of documents for a college from one pile to another. However, if you are satisfied with your initial decision, please proceed to the next step.

Step 4 - Ranking within Piles:

Now rank the colleges within piles A, B, and C according to their comprehensiveness:

- Use the Arabic numerals 1 through 11.
- All numerals must be assigned.
- No numeral may be used for more than one college.
- Indicate the ranking numeral for each college on the back of both documents for that institution.

APPENDIX B (continued)
B.23
Instructions

To rank the colleges in pile A according to their comprehensiveness,

- Use the Arabic numerals 1, 2, 3, and 4;
- assign the numeral 1 to the most comprehensive institution and numeral 4 to the least comprehensive one.

To rank the colleges in pile B according to their comprehensiveness,

- use the Arabic numerals 5, 6, and 7;
- assign the numeral 5 to the most comprehensive institution and numeral 7 to the least comprehensive one.

To rank the colleges in pile C according to their comprehensiveness,

- use the Arabic numerals 8, 9, 10, and 11;
- assign the numeral 8 to the most comprehensive institution and numeral 11 to the least comprehensive one.

APPENDIX B (continued)
B.24
Additional Questions

Now that you have placed in rank order each of the eleven institutions:

- Please indicate what, if any, additional information would have been helpful to you in making your evaluation.

- Please indicate what, if any, of the information included in the documentation was irrelevant.

APPENDIX B (continued)
B.25
Glossary of Terms

1. Cluster. The term "cluster" will refer to one of the six areas of curricular concentration identified in the HEGIS tapes for Degree Awarded. The six cluster designations are: data processing technologies, health services and paramedical technologies, mechanical and engineering technologies, natural science technologies, business and commerce technologies, and public service related technologies.
2. Degree. The term "degree" will refer to the associate degree.
3. Nondegree. The term "nondegree" will refer to all formal awards other than the associate degree e.g., certificate, or diploma.
4. Small/rural community colleges. "Small/rural community colleges" are defined as all public two-year colleges located within any one of the fifty states, with head-count enrollments of 2,499 and under, that have identified themselves as rural in AACJC documents, that offer the Associate in Arts and/or the Associate in Science degrees.

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