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The University of Oklahoma PH.D. 1983

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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

FORECASTING TRENDS OF THE ADULT LEARNER IN HIGHER EDUCATION

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

by

JOANNE ADAM LAMBERT

Norman, Oklahoma

1983

FORECASTING TRENDS OF THE ADULT

LEARNER IN HIGHER EDUCATION

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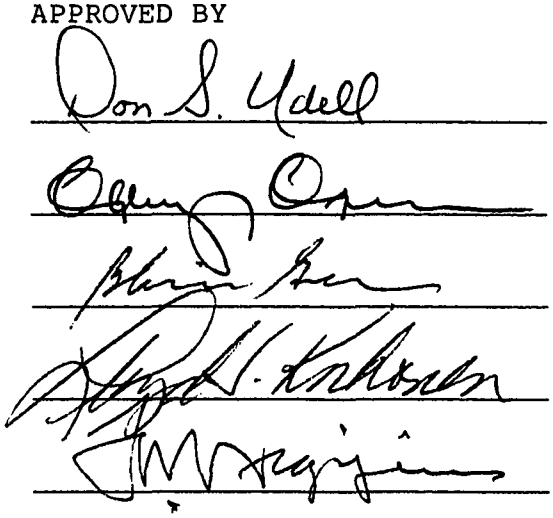

DISSERTATION COMMITTEE

FORECASTING TRENDS OF THE ADULT

LEARNER IN HIGHER EDUCATION

BY: JOANNE ADAM LAMBERT

MAJOR PROFESSOR: DON S. UDELL, Ph.D.

This study was conducted for the purpose of predicting future trends in adult enrollment in Oklahoma higher education institutions within the next 20 years, and institutional changes that may be expected to occur related to these trends. The Delphi technique was employed to collect data for the study from deans of students and directors of continuing education at Oklahoma higher education institutions.

Sixty administrators were identified as fulfilling necessary panelist requirements for the study. They were asked to respond to two categories of inquiry by listing (1) predicted adult enrollment trends in Oklahoma higher education, and (2) anticipated institutional changes; both within the next 20 years. Responses produced 272 statements which were synthesized into 45 items for consideration in the next rounds of questioning. Consensus was reached for all statements. Agreement in regard to the likelihood that the event would occur with any degree of certainty was indicated for 20 of the statements.

Panelists expressed doubt that changes would be made in the physical environment of the institutions to accommodate the adult students. This concern might be related to the high expectations shown by the panel for increased adult part-time enrollment, indicating anticipated low demand for increased resident student accommodations.

The administrators involved in the study demonstrated that they were generally alert to the adult educational trends in higher education. Their opinions concerning the likelihood of occurrence for specified events and the comments they made regarding the predictions indicated a knowledge of happenings beyond their own institutional boundaries. They forecast a continued increase in adult participation in higher education and an accelerated rate of activity in nontraditional delivery systems; trends which were also indicated in the literature. They predicted that higher education institutions would adjust to the demands of the new student population through flexibility in scheduling of classes and services, and through simplification of enrollment procedures.

ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

Background of the Study

A new clientele for higher education is emerging in the United States as adults are appearing on college and university campuses. The participation of the older student in educational programs is not in itself a new phenomenon, but the number involved and the wide age range among the group is significant. Together with the traditional college-age students, they comprise a more diverse student body than ever before, and make new demands on institutions that are serving them.

Cross (1981) attributes the present and anticipated growth of adult participation in learning to three conditions: (1) The United States is becoming a nation of adults. The baby-boom generation, now between 22 and 35 years of age, accounts for a large amount of participation in educational activities, and increased involvement is expected

as this cohort ages. (2) Social changes in the United States are encouraging a movement from a linear life plan, in which there is a distinct separation between education, work and leisure, to a cyclic or blended life plan, in which all three phases of life are redistributed across the life span. Other social influences cited are rising educational level, new status of women, increased leisure time, and job or career requirements. (3) Technological changes are coming with such speed and force that the resulting knowledge explosion makes it increasingly necessary for the learning society to continue learning.

According to Houle (1961), adults who engage in learning projects may be grouped into three categories: (1) goal-oriented learners, who have specific objectives in mind and plan direct application of their acquired knowledge or skills; (2) activity-oriented learners who participate in educational programs for the human interaction and social relationships provided in group activities; and (3) the learning-oriented who pursue learning for the sake of learning (pp. 18-25). Other statistical studies have produced variations in Houle's typology of adult learners, usually subdividing categories and adding a few factors. Houle's conclusions, however, are generally supported, and offer a reasonably reliable base for adult learning expectations.

Adults who seek to satisfy learning needs choose

several different methods to accomplish their objectives; ranging from casual independent study to highly structured degree credit programs. The source of educational activities for adults has traditionally been the college or university, but new providers are entering the marketplace and presenting some competition to higher education. Professional associations and private educational consultants are often more successful than academic institutions at minimizing learning obstacles for adults.

A national survey reported by Carp, Peterson, and Roelfs (1974) classified perceived barriers to learning under three general headings:

1. Situational barriers - conditions arising from one's situation in life at a given time (lack of money, lack of time, no child care, no transportation, etc.)

2. Institutional barriers - discouraging practices and procedures (inconvenient schedules or locations, long lines and red tape, etc.)

3. Dispositional barriers - those related to attitudes and self-perception (too old to learn, tired of school, lack of energy, etc.) (p. 46).

Cross (1979) cites lack of counseling, no parking facilities, and inconvenient faculty office hours, in addition to cost factors, as further hindrances to adult participation in learning. Even as efforts are made to give adults better access to education, the academic community must be aware that these and others are <u>perceived</u> barriers, and the perception itself may be the barrier.

The Carnegie Council Report on Policy Studies (1980) projects a 19 percent decline in full-time equivalent (FTE) undergraduate enrollment of the 18-24 year age group by 1997. This will be offset by an increase of about nine percent in enrollment of persons 25 and over. The resulting figure is a 10 percent predicted decline in FTE undergraduate enrollment within the next two decades. Graduate enrollment is expected to rise slightly.

Several uncertainties concerning possible impacts on undergraduate enrollment are discussed in the Carnegie Report. Reduced financial aid, increased inducements offered by armed services, and alternative means of education can adversely affect enrollment. Even individuals who desire further education may choose learning through educational activities provided by noneducational institutions (corporations), through use of electronic media off-campus, or they may earn credit by examination or credit for work experience.

With skillful administrative leadership, colleges and universities need not suffer loss of personnel through declining enrollment in undergraduate credit programs. Strother and Klus (1982) suggest that the obvious response is to provide more extensive and more varied services to older, part-time students. One market they focus on is mandatory continuing professional education, where the growing trend

may affect over six million people in need of additional training. They point out, however, that adults will not tolerate some of the unnecessary policies and procedures that the traditional students endure. They further note that the academic institutions face strong competition from the private sector as providers of learning. It becomes the task of colleges and universities to examine their roles as educational leaders to determine the best means of serving a new clientele.

The National University Continuing Education Association at their 1983 Annual Conference in Reno, as reported by Gessner (1983), addressed specific strategies that member institutions could implement to expand educational programs for adults. Concern was expressed that many college and university administrators either do not recognize or do not consider important the concept of lifelong learning and the new audience they now have to serve.

Adult education is a relatively new field of study in the United States, and most higher education administrators have had little or no formal training in theory and practice of this emerging profession. Even the practitioners in the field have arrived at their positions through other disciplines, then mastered their jobs through experience and independent reading. It is not to be expected that most administrators have had the time or the need to study characteristics of adult learners, although they are probably

aware of current undergraduate enrollment trends. It is also possible that many have not considered alternate programming and nontraditional delivery systems to accommodate a new consumer.

Few institutions of higher education are adequately prepared to offer older students an educational experience tailored to their particular requirements Adults are expected to "fit in" and adapt to the existing environment. College and university personnel who desire to retain this new clientele may need to reassess their resources and philosophies to determine whether changes are in order.

Gaff and Gaff (1981) suggest that in addition to changes in administrative services, faculty development programs should be implemented to acquaint faculty members with adult needs, and to learn alternative instructional skills and methods appropriate for adult students. The adult student's last contact with the institution is often through the faculty member, and a decision to return may be based on this experience alone.

Considering the predictions and projections for higher education, the following questions arise: (1) Are colleges and universities preparing for a changing student population? (2) Are any adjustments in policies and/or procedures being implemented to accommodate the new clientele, or do present arrangements seem adequate? (3) Are recruiting and retention

strategies planned to attract adult students? (4) Are non-traditional and/or noncredit programs being added to serve the lifelong learner?

Significance of the Study

Colleges and universities are becoming increasingly concerned with helping their students have satisfying educational experiences. Part of this concern stems from the growing number of older students who are attracted to the campus. These new students are not content, as the younger students have been, to accept undesirable conditions that are incidental to learning. They refuse to waste their time and are demanding improved and more efficient services.

Faced with declining enrollment of 18-24 year-old students, the academic community can also expect possible reduction of faculty and staff, plus loss of revenue for operations. Retention of older students and development of alternative programs offers a possible means to minimize the impact of these changes in higher education.

Success of the older student in higher education will probably be dependent on administrative awareness of adult learning styles and the willingness of the institution to respond to their needs. Survival of the institution may be determined by the same conditions.

There is a need to know what expectations college and university administrators have regarding the effects that

older students will have on institutional operations. There is an even greater need to know whether administrators have an understanding of the special characteristics of the adult learner, and whether the academic environment is being designed to maximize the potential of these students. Data gathered from this study will aid in preparing all institutional personnel for any modifications of policy, procedures, instruction, and/or student services that seem advisable. It will be especially useful for those functions for which retrenchment is indicated, and will allow affected personnel time to begin retraining for other purposes.

Statement of the Problem

The problem for this study was to answer two major questions:

1. What adult enrollment trends do college and university administrators expect to occur in higher education within the next 20 years?

2. What changes, if any, may be expected to occur in institutions of higher education as providers for adult learners within the next 20 years?

Purpose of the Study

The purpose of this study was to identify adult enrollment trends in higher education within the next 20 years as perceived by Oklahoma college and university administrators, and to examine changes that are expected to

occur in these institutions as providers for adult learners.

Definition of Terms

Adults - Although adults are defined in recent statistical studies as age 25 or over, age 30 was selected for this study based on "The Age Thirty Transition" detailed by Levinson, Darrow, Klein, Levinson, and McKee (1978), and the "Catch-30" condition described by Sheehy (1977). Both approaches to the adult life cycle suggest that this age defines a time of change, possibly in the form of discontent or stress, at which time a new vitality springs forth in search of new structures.

Andragogy - the art and science of helping adults learn (Knowles, 1980, p. 43).

Consensus - general agreement regarding matters of opinion.

Continuing education - the pursuit of learning beyond the point at which an individual has ceased formal schooling (Darkenwald and Merriam, 1982, p. 12).

Dean of Students - the administrative officer in a college or university directly responsible for student welfare, student services, personal counseling, and extracurricular activities designed to contribute to the successful adjustment of the student on campus.

Decentralization - the distribution of program responsibility for the education function among departments and

schools within the college or university, rather than administering from one single unit (Gordon, 1980, p. 179).

Delphi - a forecasting technique developed at Rand Corporation in the 1950s in which a panel of experts, through a series of questionnaires, makes predictions about the future. (See detailed explanation pp. 36-43.)

Director of Delphi study - person or agency responsible for collecting the panel responses and preparing the questionnaires (Martino, 1972, p. 22).

Director of Continuing Education - the administrative officer at a college or university charged with the responsibility for conducting programs of continuing education.

Expert - an individual who can supply relevant input to a Delphi study (Martino, 1972, p. 21).

Full-time enrollment (FTE) - the total semester-credit-hours earned by undergraduate students divided by 30, plus the total semester-credit-hours earned by graduate students divided by 24.

Head count - number of individuals enrolled in one or more semester-credit-hours.

Holdout - A panelist who does not change his or her response to the questionnaire from round to round (Dalkey, 1972, p. 35).

Lifelong learning - often used synonymously with adult education, but more specifically denoting a reconcep-

tualization of the entire educational process, of which adult education is an integral part (Darkenwald and Merriam, 1982, p. 12).

Nontraditional education - popularized by the Commission on Non-Traditional Study (1973) to identify the external degree and examination and assessment of experiential learning, but now representing learning experiences other than the customary higher education semester-credit-hours format.

Panel - a group of experts used for interrogation in a Delphi sequence (Martino, 1972, p. 21).

Questionnaire - in a Delphi sequence, the inquiry in each successive submission that not only asks questions, but provides information to the panel about the degree of group consensus, and presents the arguments proposed by the members (Martino, 1972, p. 22).

Round - each successive submission of a questionnaire in a Delphi sequence (Martino, 1972, p. 22).

Stability - any panel selection in a Delphi study displaying less than 15 percent change between rounds is said to have reached a state of stability.

Swinger - A panelist who changes his or her response to the questionnaire from round to round (Dalkey, 1972, p. 35).

Limitation of the Study

The study was limited to public and private two-year

and four-year colleges and universities in the State of Oklahoma having 1,000 head count or more for Spring Semester, 1983. Institutions having fewer than 1,000 student body enrollment as reported in Oklahoma Higher Education Report of April 5, 1983, were excluded from the study.

Deans of Students and Directors of Continuing Education at the selected institutions of higher education were asked to participate in the study as Delphi panelists. Other administrative officers at these institutions were not invited to serve on the panel.

Organization of the Remainder of the Study

Chapter II contains the review of literature related to current enrollment trends of college-age population and predictions for future enrollment. Adult enrollment trends are considered, and institutional efforts to serve the adult student are explored. Factors influencing change in higher education, including the information explosion, are examined. Finally, the need for forecasting and planning for change is presented, and the Delphi technique is reviewed as a tool for this purpose.

Chapter III describes the methodology used in the study, the selection of the Delphi panel, and the method of gathering the data. The development and administration of four rounds of questionnaires are explained, and the treatment of the data is discussed.

Chapter IV presents the findings of the study, and Chapter V discusses conclusions, implications, and recommendations for further study.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The one certain prediction that can be made with regard to enrollment trends is that the college-age population will decline during the next two decades. These people are already born, and barring unforeseen circumstances, the number of individuals making up this group can be predicted with relative accuracy. The Carnegie Council Series Final Report (1980) projected a decline of 23 percent in the 18-24 year-old population from 1978 to 1997, with a gradual increase from 1997 to 2010, leaving an overall drop of 13 percent from 1978 to 2010. For the same period of time, the population of the 35-54 year-olds will increase 58 percent.

In 1980, 18-24 year-olds made up approximately 80 percent of the total enrollment for credit in all institutions of higher education in the United States (Yearbook of Higher Education, 1982-83). By 1990, they are expected to comprise 70 percent of the total. The total number of individuals enrolled is expected to remain about the same, with an expected increase in adult enrollments compensating for the decline in the younger age cohort.

From 1978 to 2010, a population increase of 52 percent is evident among the number of persons over 55, almost the same as forecast for the 35-54 year-old population (Carnegie Council, 1980). Even if the rate of enrollment among these two age groups remains constant, the number of potential enrollees is large enough to have a significant impact on student population in United States institutions of higher education.

According to the U.S. Bureau of the Census (1977), approximately 60 percent of the United States population by the year 2000 will be thirty years of age or older. This represents an increase from 50 percent in 1980. And according to the National Center for Education Statistics (NCES), as reported in the National University Continuing Education Association (NUCEA) Newsletter (July/August 1982), over 90 percent of adult education participants in 1981 were at least high school graduates, and over 31 percent had five years of college.

Aslanian and Brickell (1980) note that the United States will change in the 1980s from young to middle aged. They forecast a continued increase in life expectancy, and population shift from a median age of 30 in 1977 to a median age of over 37 by the year 2000. They also predict that this new population will be better educated, with three out of four people by 1985 being high school graduates, and one out of five having completed four or more years of college.

Studies indicate that participation in organized educational activity is directly related to educational attainment, and the more education people have, the more likely they will be to engage in additional learning. The participation rates of individuals with more than four years of education has increased almost 46 percent since 1969, while the number of participants with less than a high school education has decreased 11.5 percent. Cross (1981) cites several studies to support her assertion that "A college graduate is more than twice as likely to be engaged in adult education as a high school graduate, and a high school graduate is more than twice as likely as a nongraduate to be a participant" (pp. 54-55).

Age, after level of education, is the second most important indicator of participation in learning activities. Interest and participation generally decline, beginning in the early 30s, but there are some indications that this pattern may change. Between 1969 and 1975, as the eligible adult population increased 12.6 percent, participation in adult education activities increased 31 percent, or 2½ times faster than population growth. During this same time period, the number of adults 55 and older who participated in organized educational activites increased 55 percent (Yearbook of Adult and Continuing Education, 1979-80).

When Johnstone and Rivera (1965) conducted their

research several years ago, age and level of education were identified as two major factors that influenced adult participation in education. At that time, 47 percent of persons with more than four years of post-secondary education participated in continued learning activities, and the median age of these adult participants was 36.5. They predicted a need to serve within the next few decades an expanding adult population with a higher level of educational attainment.

These two factors, the rising educational level of the population and the increased learning activity among the older people, coupled with technological change and the knowledge explosion, make it increasingly likely that the adult trend toward more participation in education will continue.

Some of the adult learners will be pursuing credit courses, but most of them will be more interested in noncredit learning, a preference not going unnoticed by colleges and universities. The number of educational institutions providing noncredit adult and continuing education courses increased from 1,102 in 1967-68 to 2,224 in 1975-76, with number of participants increasing from about 5.6 million to 8.8 million (Cross, 1979). And even as major provider of educational services for adults, academia furnished at this time only about 37 percent of total adult educational activity.

The Adult Learner

The term "nontraditional," according to Barton (1982, p. 130), created to distinguish these new adult students in unconventional learning activities, denotes what "is not, rather than what is." He observes that adult learning is being treated as an appendage to youth education, and that little concerted effort is being made to develop programs that best suit the older student. He considers this an indication that we have merely tinkered with youth-serving institutions and have not yet achieved a system of adult education. He advocates more innovative scheduling of programs and additional investigation of adult needs.

Strother and Klus (1982) also criticize academic institutions that appear to be serving the new students through external degrees and nontraditional programs, but are in fact simply packaging "old wine in new bottles" (p. 12). They prescribe more imaginative approaches, with innovative scheduling patterns and creative teaching techniques. A greater understanding of adult learning, motivations, and situational constraints will be required, they charge, if colleges and universities expect to serve the older students.

Knowles (1970) has long been a proponent of andragogy, the art and science of teaching adults, as opposed to pedagogy, the art and science of teaching children. In response to criticism by Elias (1979), he emphasizes the independent nature of the adult learner, and the need for instruction to

encourage further inquiry. He strongly supports the need for a learning environment different from the traditional formal structure; one in which there is less distinction between teacher and student, and more joint inquiry.

There is much debate among educators concerning the philosophy of teaching adults. In the pedagogy vs. adragogy issue, Knudson (1979) even proposes humanagogy as the unifying concept on which to base adult education, linking together all growth processes. Whatever the philosophy or theory of teaching, some needs and differences have been identified for the adult learner, and some adjustments are in order for institutions that desire to accommodate this new clientele.

One study conducted by Tough (1982) disclosed that 90 percent of all adults carried out at least one major learning project per year, only 20 percent of which were directed by a professional. The remaining 80 percent were self-planned or planned by friends. He further concludes from his studies that only about five percent of all learning projects are undertaken for credit. He stresses the need to recognize the competence and knowledge that adults already have in order to avoid redundancy in their educational pursuits, and to be able to better assist them in planning their studies. Most of the reasons given by adults when asked why they planned their own projects were related to the desire to maintain

flexibility in learning, he reports.

Knox (1977) cautions educators, when examining adult learning characteristics, to be careful not to attribute to age such factors as personality, physical condition, and social class. He points out that many adults in good health maintain high learning capacity; that studies indicate social class and educational attainment affect learning at any age; and that flexibility and adaptability to change are positive influences on learning for all individuals. He alleges that attention to structure, pacing, and feedback will help adults learn in almost any setting.

Kidd (1973) discusses physical, emotional, psychological, and environmental influences on adult learning. He generally emphasizes, as does Knox, individual differences and other factors not attributable to age. He mentions normal changes that occur in the human body in the process of aging, most of which affect learning and job performance. He concludes, however, that environmental and instructional factors, as well as individual adjustment and response to changes may be more important than chronological age. He directs attention to sight and hearing, two physical functions which do decline as a natural part of the aging process. He recommends minor modifications of environmental conditions to minimize the deficits. In addition to increasing illumination, eliminating glare, organizing close group work, and generally practicing good communication

skills, educators are urged to practice motivational techniques to assist students in gaining self-confidence for learning.

Boyd (1981) states that enrollments in higher education doubled every 14 to 15 years from 1870 to 1970, with decline in only four years of that century. He notes that "The management of decline is not a technique with which educators are experienced" (pp. 69-70). He points to a need for institutions formerly designed for faculty convenience to reorganize in favor of the adult part-time student, citing scheduling of classes as a particular problem. He challenges the institutional administration to become leaders rather than mere presiders; otherwise, he says they will be doomed to preside over decline. He appeals to educational institutions to rethink their missions, to develop peer counseling programs, and to give as much concern to retention as to recruiting.

Serving Adult Needs

Recording data collected from major studies in the various states of the nation, Cross (1979) discusses learner needs and barriers to learning. She suggests that many of the barriers reported by respondents indicate lack of information, which is also a barrier. She complains that our data gathering methods tend to look toward modifying traditional education rather than considering new learning conceptions.

She admits, however, that the restriction may be due to the potential learners' inabilities to think beyond the existing system. She points to indications that adults are highly pragmatic learners, interested in knowing how to apply knowledge, more receptive to interactive and active modes of learning, and less inclined to listen to "experts" dispense information. She supports more consideration for external degree and special programs designed specifically for adults, offering credit for life work experience, credit by examination, travel study, community projects, and contract learning.

Cross and Zusman (1979) prepared a chart of adult learner needs and program responses to the needs to illustrate ways that older students are being served in higher educational settings. One major area of concern is in alternate scheduling, not only of classes, but of administrative services as well. New locations off-campus for convenient access are also indicated. Nontraditional methods of teaching are being provided by institutions through such means as directed experiential learning, mass media, and a variety of independent study arrangements. Some important noninstructional services that are receiving attention are financial assistance for nontraditional students, brokerage and counseling services, and orientation programs addressing special concerns of adult learners. Measurement and eval-

uation in nontraditional programs are described as probably the newest and most controversial component in adult learning. Cross and Zusman examine the principal forms of collecting, assessing and certifying learning experiences, through credit-by-examination, certification of noncollegiate courses, and assessment of experiential learning. They consider the criticisms of the practices and explore several accepted standardized examinations used for evaluation.

Giorgio (1983) criticizes colleges and universities for placing too much emphasis on marketing programs and recruiting adults, and too little on retaining the adult learners once enrolled. He maintains that there is a 50 percent probability of return when customer expectations are met, and more than 8.5 percent probability when expectations are exceeded. He suggests that adult complaints of dissatisfaction are reactions to institutional insensitivity and lack of understanding of adult needs. He makes several recommendations for rectifying the situation, among which are evaluation, feedback, and involvement of adult learners in the planning process.

Houle (1974), in exploring continuing efforts of reformers to provide adult education for the lower classes, notes that colleges and universities are again seeking to serve a first generation of adult learners. He describes programs at Chicago TV College, New York Institute of Technology, Project RFD, and Advance Schools, Inc., that

blend television, correspondence instruction, telephone problem-solving service, personalized visits to students, home study, and apprenticeships in nontraditional ways to serve these new students. He stresses the importance of the immediacy and practicality of learning for the adult, and the necessity for integration of life experiences into the learning situation.

Henderson and Henderson (1974) examined institutions that train people for the professions in specialized areas, such as medicine, law, accounting, etc. They declare that these institutions, alert to the knowledge explosion, should not attempt to graduate a finished product, but a continuing student, trained as a problem-solver who has learned how to learn, how to acquire knowledge and discard obsolete notions, and how to apply theory.

Administrative Structure

Hesburgh, Miller, and Wharton (1973) discuss the recent tendency for adult education to be referred to as continuing education or lifelong learning, implying a new focus of concern. They call for informality and flexibility in learning, less emphasis on credits and time constraints, and integration of the university's continuing education function into the mainstream of the institution. Their position is that a greater commitment will result from decentralization of this operation, linking the community to the academic areas, and

faculty teaching responsibilities to continuing education.

Discussing the administrative structure of the academic institution, Harrington (1977) supports integration of adult education activities into the total institution. This includes, he maintains, noncredit as well as credit programs. His contention is that all units of the college or university benefit by combining resources, reducing unnecessary duplication, and saving money.

He concedes that most chief administrators are not expected to have had much experience in adult education programming, and suggests that leadership be assigned to one who is specifically trained for that duty. The designated official then would establish liaison among academic departments. Harrington stresses, however, the importance of strong administrative support of adult education in order for cooperative planning to succeed.

Colleges and universities are responding in a variety of ways to the older student population. Apps (1981) profiles five types of institutions and their reactions to the increasing number of adult part-time students. Some institutions continue programs as if all students were traditional day-time, college-age enrollees, making no allowances for those who do not fit the mold. They look down on noncredit activities as inferior offerings. The second group differs from the first only in that they recruit the older students,

recognize their existence, but refuse to make any changes in existing programs for fear of lowering quality. A third group continues the traditional programs, but makes major modifications in scheduling by offering weekend and late evening classes. They make campus facilities and administrative services accessible at nontraditional times, and provide special counseling centers for adults. A fourth group does all the things the third group does, plus offers specifically designed degree programs with nontraditional schedules and study formats. The last group develops degree programs for older students only.

Apps recommends several changes that institutions should consider in order to attract adult students. The areas of greatest concern, he perceives, deal with rules and procedures, and with attitudes of administrators and faculty. He heavily criticizes the entrance and registration processes, and suggests that most of this could be handled by phone.

Providers of Adult Education

Discussing needed reforms in higher education, Peterson (1981) advocates "age neutralism" with a commitment to serve students of all ages (p. 323). He notes that two-year community colleges are doing a better job of this than are four-year institutions. He advocates collaboration and cooperation among educational institutions, including agencies and

organizations, such as libraries, city recreation divisions, and churches. He proposes the use of an educational broker to assist individuals in planning their learning projects.

As a result of a request by Change Magazine, twenty-six educators in the United States each wrote an essay projecting his or her conceptions of the future of higher education through the turn of the century. Lifelong learning surfaces as the prominent theme of prediction. This may be considered significant when it is observed that none of the writers holds a position that might be considered to be directly involved in adult, community, or continuing education. Most of them are administrators at institutions of higher education, and they generally view lifelong learning as an alternative for survival in view of the projected decline in traditional college-age enrollment.

Gould (1977) in this volume, while supporting the concept of lifelong learning as a vital part of the American dream, points out that it is not a new idea at all, that "it merely keeps on being rediscovered--and forgotten." He feels that higher education is still moving in this direction a bit unsteadily, and is pessimistic about the future unless the institutions gain firm control and work toward a unity of purpose among all postsecondary educational agencies.

Berlin (1982) debates the issue of competition vs. cooperation among universities and professional schools and associations in the area of continuing professional educa-

tion. The private providers are practical and efficient in their marketing and delivery, and they serve their clients well. The one thing they lack is legitimatization for their endeavors, which the universities can provide. The educational institutions, on the other hand, are concerned that control and academic standards will be compromised through collaboration with outside agencies. Berlin's prediction is that the colleges and universities will choose to cooperate in the interest of their own survival, and because of the benefits they can derive from the successful strategies of the private agencies.

Compulsory continuing education for recertification and relicensure is increasing among professions in every state, continually opening new markets for colleges and universities. Although opposition to the mandatory education requirements is gaining ground, Rockhill (1981) points out that subtle coercion will remain even if no mandate exists, in the form of salary and promotion increments. She cites the teaching profession as an illustration of this practice. Higher education as a provider of continuing education is facing the issue of quality control and accountability. Rockhill suggests that the influx of the masses from the work force may result in inferior learning as programs are directed toward the median needs of all.

Addressing the issue of effectiveness of service to the

adult learner, Phillips (1982) expresses concern that economic pressures are affecting the mission of higher education, forcing a shift from qualitative to quantitative measures of results. The "Madison Avenue approach" in continuing education, he charges, has created administrators who have forgotten how to be educators. But he anticipates a new educational focus on the learner as higher education is challenged to aid society in the quest for continued competence among practicing professionals.

The Commission on Non-Traditional Study (1983), based on their survey of experiences and preferences of adult learners, recommended that "because of the desired content of adult learning, most organized forms of adult study should probably be sponsored by institutions other than colleges and universities." They go on to advise, however, that higher education should provide leadership for and cooperate with all educational institutions in planning programs for adult learners. They encourage the acceptance of nontraditional studies as an integral part of the total institution rather than providing only those activities that pay for themselves.

Funding Sources

Citing the prevailing belief that society benefits from education for youth, therefore the public pays for some of the costs, Lenz (1980) raises the questions of who should pay for continuing education for adults. The view here has been

that the individual alone is the recipient of the learning experience. She contends that contemporary issues of a changing world now make adult education a necessity, not a luxury. She points to the need for changes in funding policies at both state and national levels if lifelong learning is to become a reality for all. Two major practices, she indicates, that restrict adult access to learning are: (1) the credit hour base by which full-time-equivalent (FTE) enrollment status is calculated, and (2) the requirement of full-time student enrollment for financial aids benefits.

Lenz concedes that government funding would not eliminate all obstacles to learning for those not currently participating in educational activities. But she does declare a need for already existing institutional support services to be made available to adult students. Finally, Lenz proposes that the solution may lie in marketing, by charging higher fees for certain programs that attract those able to pay in order to support other programs for low-income audiences.

Robert J. Kost (1981), Director of Marketing Education Services for General Motors Corporation, perceives continuing education as "any technical or professional education and training that a person receives from the start of a career until retirement" (p. 38). This includes, he says, self-initiated learning, as well as inservice training and education provided outside the workplace. He quotes statistics from a 1974 study of educational and training

activities in Fortune 500 companies, which projected an estimated expenditure of $50 billion by 1980 on internal and external continuing education. He insists that industry prefers to hold down growth of internal staffs and use outside agencies for continuing education where satisfactory service is available.

Kost accuses higher education of being unresponsive to the needs of society, providing poorly planned curricula and inadequate instructors who are unaware of adult learning methodology. He professes a need for greater competition among academic institutions to improve quality of services. He proposes improved information interchange between academic and industrial institutions, with more cooperation in joint research, joint program development, and joint instruction. He recognizes one main strength of higher education in preference to other outside providers as the ability to add legitimacy to the industry's education endeavors.

The Information Explosion

John Naisbitt (1982), analyzing the information explosion and the urgent need for continuing learning, predicts that the next decade will witness a new conception of education, as we move toward lifelong learning and retraining as a way of life. He further predicts that a new era of university-industry cooperation is emerging as a result of reductions in federal funding, changes in student population,

and the effects of inflation on institutions. He notes that computers are slowly making their way into the public schools, where the present student generation will become acquainted with this new technology. But computer literacy for all is a necessity in our information society, and higher education should be quick to respond to the call. Twenty percent of the students in a computer course at Boston University, Naisbitt reports, are business people learning how to handle this new system.

The information explosion, propelled by new technology, is creating knowledge at a rate almost impossible to comprehend. The amount of data being generated is accelerating from a current 13 percent per year to an expected 40 percent per year, doubling every 20 months, according to Naisbitt. This precipitates a need to learn for an adult population already acclimated to learning. Colleges and universities are the obvious providers for this ready market. But there are others who will meet the challenge if academia does not.

Planning for Change

The literature of higher education generally indicates a trend toward increased participation in educational activities among the adult population. There is criticism, however, that no preparations are being made in higher education for this new clientele, in spite of evidence that existing structures will not accommodate the needs of this

group. And despite the fact that some institutions are developing new program delivery systems and adjusting student services, there are few indications that this is being done through deliberate planning for anticipated changes.

Tracing the development of adult education in the United States, Knowles (1962, p. 156) characterizes the role of higher education as one largely of "need-meeting." In contrast to the broad plan of general education for children and youth, he observes that adult education has responded to needs of individuals and society as they arose, without any "grand design."

Kerr (1977, p. 39), reflecting on the evolution of higher education, notes that in comparison with universities, "even religious institutions have changed more." He therefore predicts that in the next 25 years higher education will be much the same as it is today, with minimal adjustments to environmental factors, and disregarding indications of need for planned change.

Illustrating the lack of planning prevalent in higher education, Mayhew (1979) points to the rapid growth of institutions between the end of World War II until the late 1960s (with the exception of the years 1952-58). This, he states, was merely a reaction to needs through building of facilities and expansion of resources, with little thought to planning for the future. In fact, he suggests that the magnitude of

growth concealed the lack of planning within many colleges and universities. Depressed enrollment at the end of this period brought out the seriousness of the situation, and many institutions were forced to make unexpected cuts in programs and services. Mayhew emphasizes the need now, as we move into the 1980s, for more elaborate and better ways to arrive at both long-range and short-range planning. But he predicts that, unless some major new purpose evolves for higher education, the academic program for the next 25 years will remain the same as it has since the 1930s (Mayhew, 1977).

There was an attempt by Tickton in the 1950s through Ford Foundation to encourage master planning for higher education, in anticipation of an enrollment glut during the next decade. Through careful study, many colleges and universities formulated workable long-range plans for institutional growth. One notable success story was at Stanford University, where a $100 million development campaign aided in achieving the plan for expansion (Mayhew, 1979). But for most institutions, the efforts at adopting a master plan merely resulted in an attractive model display for the library or the president's office, and operations continued much as before.

Forecasting Trends

In some cases, lack of a successful plan may be attributed to unforeseen circumstances over which the planner has

no control, such as election outcomes, strikes, energy shortages, or government acts. Most other failures, Strother and Klus (1982) state, are human error, the result either of poor planning procedures or of poor forecasting. They recommend, assuming proper planning procedures can be implemented, two methods of forecasting to aid in the process.

The simplest technique, they suggest, is persistence forecasting, based on the assumption that past events will repeat themselves. The effectiveness of this method depends on the availability of dependable information, and on the ability to make good judgment concerning applicability to new situations. The second forecasting method proposed is the Delphi technique, a valuable system for making predictions when factual data are unavailable. They refer to it in its basic form as "subjective probability," but differing from intuitive judgment through pooling of ideas from several competent forecasters. They consider Delphi to be an effective tool for planning continuing education programs through group process. This technique, they say, reduces risk and uncertainty by drawing on capabilities of skilled and knowledgeable individuals.

While conceding that forecasts tend to be self-fulfilling or self-defeating, Toffler (1970) still contends that it is time for society to abandon the myth that the future is "unknowable" (p. 461). He stresses the advantage of even primitive attempts at scientific forecasting, stating

that probing the future can also pay off in the present by helping to clarify goals, identify change agents, and aid in evaluation alternatives. He mentions Delphi as a means of using expert "intuitive guesstimates" for accomplishing these purposes.

Commenting further on the paradox of self-fulfilling and self-defeating forecasts, Martino (1972) poses the questions of whether a forecast, in order to be good, must come true. His position is that there are many forecasts over which decisionmakers have some degree of control regarding eventual outcomes of events. He declares that the measure of a forecast is in terms of its usefulness in making decisions. A forecast, he says, is not based on the future, but on available information about the past, and implications for the future. The forecast provides a statement of likelihoods or possibilities about the future, and on this basis a plan can be developed. Planning helps to identify alternative actions, increases the freedom of the planner for program implementation, and allows for improvement of the quality of decisions. Martino considers the Delphi technique to be an effective means of pooling expert opinions and judgments in the planning process to aid in accomplishing these purposes.

The Delphi Technique

The Delphi technique is based on the adage that two

heads are better than one when the issue is one in which exact information is not available (Dalkey, 1969). The process is designed to capitalize on the advantages of group judgments, and at the same time minimize the disadvantages often associated with committees. While recognizing the benefits of group input and interaction, Martino (1972) acknowledges the pressures on group members to conform to majority opinion, the influence of dominant individuals, and other social influences that may bias group decisions. Prior to development of the Delphi technique, it was necessary to tolerate the undesirable characteristics of committees in order to obtain the advantages.

Rand Corporation in the early 1950s began experimenting with applications of expert group opinion to arrive at consensus. The first study, conducted through a contract with the United States Air Force, revealed to experimenters the lack of methodology for long-range planning. Additional studies at Rand further developed the process and brought Delphi to the attention of individuals outside the military community. Gordon and Helmer's (1964) study assessing the direction of long-range forecasting trends, which they defined as spanning 10 to 50 years, formed the foundation for experimentation in nondefense areas. This study asked respondents to consider future possible developments in six topic areas: scientific breakthroughs, weapon systems, popu-

lation control, space progress, automation, and war prevention. The study coincided with a mounting interest in long-range forecasting among industrial and public organizations, and use of the Delphi spread into the more complex problems facing society: environment, health, education, transportation, etc. (Linstone and Turoff, 1975).

The first application of Delphi for the field of education was reported in 1966, and was directed at generalized goals and objectives for the future (Judd, 1972). Although Delphi was originally intended as a forecasting tool, Judd observed that its use was being concentrated in three main areas: (1) educational goals and objectives, (2) curriculum and campus planning, and (3) development of evaluation criteria.

Even considering the growing number of Delphi studies that are being published, Judd suggests that a significant number are not being reported because administrators do not want their institutions identified as they plan for change. He supports this claim by pointing to the number of pioneers in the technique who now have new responsibilities and academic connections since their first work with Delphi, and from his first-hand knowledge of such a situation.

Three features characterize the Delphi technique: (1) anonymity of response by obtaining opinions through formal questionnaire; (2) controlled feedback (iteration) utilizing a series of rounds in which respondents are provided a

summary of previous rounds; and (3) statistical group response which assures that the opinion of every panelist is represented in the final response. These three properties combine to reduce the opportunity for undue influence from other members of the panel. There is at the same time a great degree of freedom and flexibility in applying the principles for research.

A variety of modifications have been developed in experiments with the Delphi technique, but the classic paper-and-pencil procedure with a blank sheet of paper is the most commonly used (Linstone and Turoff, 1975). In this form, a group of experts identified for the panel are interrogated with a series of questionnaires. The first round questionnaire is completely unstructured and open-ended, requesting a forecast concerning the subject for which the panel was selected. After the questionnaire is returned, the results are summarized, and a new questionnaire is developed based on these results. This second questionnaire is presented to the panelists, and they are given an opportunity to reevaluate their original responses based on the group results. The panel is usually requested to estimate when the events will occur. Results of the second round are summarized and returned to the panel for the third round. Included on this questionnaire are also the panel median for time of occurrence and the upper and lower quartile time for each

event. Participants are given an opportunity to revise and reevaluate their responses, and to give reasons for any estimates that fall outside the interquartile range. Revised estimates and new arguments are summarized and returned to the panel for the fourth round questionnaire. The same procedure may be continued for a fifth round, but it has been found that the shift in forecasts after the fourth round is usually not significant, and three rounds are frequently adequate for reaching consensus (Martino, 1972; Jones and Twiss, 1978; Linstone and Turoff, 1975).

Judd (1972) identifies three major issues that must be confronted in applying Delphi to higher education: selection of the panel, character of round one, and consequences of feedback.

1. Selection of the panel - The most difficult factor in panel selection, Judd declares, is in determining who is an "expert." The original Delphi technique was designed for 12 to 15 experts, but has been reported using more than 1,200. The one thing to beware of, he says, is "inbreeding," selecting panelists who would reflect a singular set of judgments because of background and training. Large panels offer a broader range of knowledge and experience, but loss of participation may still leave an unbalanced group. Experiments at Rand Corporation indicate that the inclusion of less knowledgeable individuals on the panel is not undesirable; therefore, precise selection may be an undue

concern (Dalkey, 1969).

2. Character of Round One - The issue is whether to use prepared statements or to ask for free choice responses from the panelists. One Delphi study analyzed by Judd (1972) revealed that a panel of 42 members yielded 197 separate and different responses on a free choice first round. He reported a larger study involving 281 respondents that required five days of editing by a team of six individuals to prepare the second round questionnaire. Skutsch and Hall (1973) estimate that three rounds of Delphi involving a panel of thirty would require 142 man-hours of work over a period of approximately two months. Thus, editing is a lengthy and time-consuming process. However, Judd (1972) also reports variations and deviations from the "pure" Delphi, in which the first round began with prepared statements. His observation in these instances was that inclusion of certain items tended to influence panelists in their selection, and increased the probability of occurence of the specified events.

3. Consequences of Feedback - The number of different responses and the possibility of having too many items on second and later rounds may result in fatigue. Even convergence and elimination of duplication usually yield a longer list than is desired for sequential rounds, possibly creating a high respondent drop-out rate. There are indica-

tions, too, that feedback affects participant responses on subsequent rounds, influencing a shift toward the mean (Dalkey, Brown, and Cochran, 1970). Scheibe, Skutsch, and Schofer (1975), testing the effects of feedback of participant responses, provided false information during the second round questionnaire. They concluded that the observed shifts in responses were influenced by feedback information.

Gordon and Helmer (1966) make no claims for the reliability of predictions made through Delphi studies, but suggest that the process provides at least a stronger basis for making long-range decisions than might be derived from mere guesswork of uninformed individuals.

A series of experiments at Rand Corporation in 1968 explored the accuracy of group estimates in face-to-face discussion and in anonymous situations with controlled feedback. Results indicated a higher degree of accuracy through Delphi techniques than in the face-to-face encounters (Dalkey, 1969). Examining these studies for reliability, Martino (1972) notes a high level of consistency in the forecasts produced by panels made up of different individuals with similar backgrounds.

Gazzola (1971) compared a Delphi group with a discussion group in an experiment dealing with group consensus in educational planning for curriculum changes in an elementary school. Results indicated that the Delphi technique promoted greater within-group consensus than the discussion

group experienced, and created awareness among educators of needs for the future. It was also found that the consensus information resulting from the Delphi group was more reliable than that obtained in the discussion group.

The Delphi technique is gaining in popularity and importance as a device for forecasting, planning, and decision-making in higher education. Several studies in recent years have contributed to the process through investigations to identify needed changes in curriculum, facilities, and services, based on predictions for the future.

Delphi in Higher Educaton

Curran utilized the Delphi technique for a study at Baldwin-Wallace College in 1972 to identify changes needed to improve the quality of student life at that institution. A panel of 63 individuals selected from administrators, faculty members, and upperclass students reached consensus on 15 of 48 statements generated through three rounds of questionnaires. The needs were prioritized to provide information for planning on that campus. She recommended that Delphi might be used to plan strategies for change after needs are determined.

A study by Lipsetz in 1972 conducted for the purpose of developing a plan of change for the Student Affairs Office at Ohio State University disclosed some weaknesses in the Delphi technique as a change agent. Lipsetz used the procedure to

gather data for institutional goal-setting and identification of desired changes, but found the information difficult to interpret for the intended purposes. Consensus was not achieved as anticipated.

A modified version of Delphi was used by Rasp (1972) in which a group of Washington state residents were asked to forecast existing conditions of the state during the decade 1975-85, and to suggest desired goals for the educational system based on their predictions. The technique was shown to be a reliable instrument for providing information needed for decision-making. The use of Delphi for education planning was further strengthened through a similar study by Rickman (1974) in the same state in which desired educational changes were identified.

In 1973, McLeod applied a modified Delphi technique for goal identification and priority setting in a voluntary higher education consortium in Alabama. The final analysis of data showed consensus in perceived goals both as they existed and as the leadership thought they should be. McLeod concluded that the results of the study provided useful information that decision-makers could use in establishing priorities and in defining the mission and purposes for the association.

Participants in a Delphi study administered by Nardoni (1973) were asked to consider the relevance of 84 predictive

trends in future planning for education. On the final round, the questionnaire was also sent to a similar group of educators who had not been exposed to the previous rounds of questioning. Results indicated that the scope of factors considered in predicting educational futures was increased through the Delphi process.

A four-year target date for forecasting was used in a study by Dowell (1975) to consider four controversial educational areas in Tennessee higher education: (1) student participation in decision making, (2) tenure/collective bargaining/contracts/unionization, and (3) baccalaureate degree requirements. Administrators and faculty members who participated in the study did not achieve consensus in many areas, although 65 percent convergence occurred through the three rounds.

The Delphi technique was used by Masters (1975) to identify alternative futures for continuing education during the following 25 years. The panel was selected from continuing education personnel in public universities in an eight-state region of upper midwestern United States. Consensus was reached in several major areas regarding the structure, programs, and financing of continuing education. It was predicted that the continuing education unit will remain centralized within the university; that a higher level of marketing skills will be required due to increased competition; that there will be an increasing number of stu-

dents due to mandated continuing education requirements, and that there will be a move away from self-support through fees, and toward funding from state allocations.

Postsecondary education in Utah was examined through Delphi by Beacham (1976). Administrators of 11 institutions and two boards of control were asked, in addition to forecasting probable changes, also to consider the consequences of the changes should they occur. Some recommendations made as a result of the findings dealt principally with a need for more systematic long-range planning.

Murphy's (1976) study to identify priorities for decision making in Massachusetts regional community colleges focused on a projection time of five years for forecasting. Staff development, student services, and access for low-income persons received high consensus and high priority rating from presidents and deans surveyed. Murphy expressed concern for the validity of Delphi results when the respondents have a vested interest in the outcomes for which forecasts are made.

Decentralization of continuing education units and more flexibility in academic programming were two areas of consensus reached in a Pennsylvania study by Transier (1978). However, the researcher concluded that the Delphi process does not affect an individual's perception of the future.

A modified Delphi technique was used by Brooks (1981)

to determine priorities for decision making in continuing education in Georgia. A prepared list of problem statements was presented to participants in the first round questionnaire. Second and third round data were used to define consensus position. The process was an effective means of compiling opinions for consensus, but results indicated that the administrators did not perceive the identified issues to be significant problems in continuing education administration.

A Delphi study of two-year college administrators in Texas indicated a partial knowledge of the enrollment trends predicted in the literature. A need emerged, however, for more training to increase awareness of changes required to accommodate adult students (Jones, 1982).

Summary

The Delphi technique has been successfully used in higher education as a tool for planning and decision making. It has been shown to be an effective method of assessing and evaluating current and anticipated conditions. It serves as an instructional device, and is a means of establishing priorities for action. When sufficient factual data is unavailable for these purposes, Delphi offers a systematic way to obtain information from knowledgeable individuals, and to report consensus when it is achieved through the process.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to identify anticipated enrollment trends of adults in higher education in the next 20 years, as perceived by college and university administrators in the State of Oklahoma, and to identify changes, if any, that may be expected to occur in the institutions in order to accommodate the trends. The Delphi technique was chosen as the method for collecting information and encouraging consensus among administrators selected to participate in the study. This method has been shown to be a reliable means of obtaining a single representative prediction from a group of knowledgeable individuals (Dalkey, Rourke, Lewis and Snyder, 1972; Martino, 1972).

Plans were outlined for administering four questionnaires over a three-month period, beginning July 15, 1983, and ending October 10, 1983, with final results mailed to all participants on November 21, 1983. The time schedule was strictly followed as planned.

Selection of the Panel

The panel for a conventional Delphi study is made up of individuals who have expertise and knowledge of the subject

or issue under consideration (Linstone and Turoff, 1975). For this study, college and university administrators in the State of Oklahoma were considered to be individuals with special knowledge about adult learners in higher education. Specifically, the Dean of Students and Director of Continuing Education at each public and private two- and four-year institution and at each comprehensive university were identified as the administrators who not only are most knowledgeable about adult students, but also are most directly involved in development of policy and procedures affecting these students.

Colleges and universities having fewer than 1,000 student head count were not included in the study. Institutions were selected on the basis of enrollment information for Spring Semester 1983 published in Oklahoma Higher Education Report (April 5, 1983). Examination of the organizational structure of Oklahoma Higher Education institutions indicated that a head count enrollment of 1,000 or more was generally required for an institution to employ specialists in student development and continuing education (Yearbook of Higher Education, 1982-83).

The Dean of Students at most higher education institutions is responsible for student welfare, student services, personal counseling, and extracurricular activities designed to contribute to the successful adjustment of the student on campus. The Director of Continuing Education serves the

nontraditional student through unconventional programs, and is accustomed to providing services based on identified marketable needs. These two individuals were determined to be the campus administrators in best positions to be alert to the composition of the student body and to the needs of this population.

The names and administrative titles of the panelists were obtained from the Yearbook of Higher Education (1982-83) and from the respective college catalogs. In institutions not listing specific job positions of Dean of Students and/or Director of Continuing Education, a person holding the position with equivalent title was invited to participate as a panelist.

Through the selection process, 30 higher education institutions were identified as fulfilling the established criteria, yielding a population of 60 with two individuals queried at each institution. Data were gathered using the entire population.

Method of Gathering the Data

The classic Delphi technique was used for this study, without modifications. This is the traditional "paper and pencil" method in which participants are requested to respond freely to the issues being considered. Linstone and Turoff (1975) caution Delphi users to avoid overspecifying the structure, which tends to impose views and preconceptions on

the panelists. They also encourage allowing respondents to contribute other perspectives to the issues.

Care was taken in this study to follow the recommendations of Linstone and Turoff (1975) by asking panelists to formulate their own statements in the first round of questioning. Respondents were asked to react to two general questions by listing events that might be expected to occur in regard to adult participation in higher education. In subsequent rounds, panelists were encouraged to add their own remarks to the prepared list of summarized statements.

Prior to mailing the first round questionnaire, a pilot test was administered to 11 faculty and administrative staff members at East Central Oklahoma State University. They reviewed the instrument, the accompanying cover letter and Delphi description for clarity, consistency, and form. Recommendations were made regarding the need for clarification of the document describing the Delphi process, and for simplifying the cover letter. Minor changes in phrasing of the questions were also recommended. The suggested changes were incorporated in the final draft of the survey instrument and the accompanying documents.

Five colors of paper were used for producing all Delphi materials that were mailed to prospective panelists. Not only did this present an attractive package, but it also provided the means, in conjunction with questionnaire headings,

whereby the questionnaires were coded for identification of respondents.

The following example illustrates the use of the coding chart as shown in Table 1:

Two panelists at the same institution were assigned number 22, but this number did not appear on the questionnaires sent to them. This number appeared only on the address list for mailing purposes. The questionnaire was headed "ROUND ONE" or "ROUND THREE," or whatever was applicable for the round of questioning, and was printed on buff paper. The form of heading in combination with paper color designated the institution represented. For directors of continuing education, the questionnaire was stapled vertically in the upper left-hand corner; and for deans of students, the staple was horizontal. Only one problem was encountered using this procedure. A panelist copied the questionnaire on white paper and returned it. The individual was identified, however, through process of elimination.

The Delphi process was begun July 15, 1983, with transmittal of the first questionnaire and invitation to participate being mailed to 60 prospective panelists. The second round followed on August 15, the third round on September 12, and the fourth round concluded the questioning on October 10. This sequence was charted prior to the beginning of the study, and strictly followed in order to maintain continuity in the process. Table 2 provides a pic-

TABLE 1

CODING CHART FOR DELPHI STUDY

Panelist No.	Heading	Paper Color				
		Blue	Buff	Green	Pink	Yellow
1	ROUND ONE	X				
2	" "		X			
3	" "			X		
4	" "				X	
5	" "					X
6	ROUND ONE	X				
7	" "		X			
8	" "			X		
9	" "				X	
10	" "					X
11	ROUND I	X				
12	" "		X			
13	" "			X		
14	" "				X	
15	" "					X
16	ROUND I	X				
17	" "		X			
18	" "			X		
19	" "				X	
20	" "					X
21	ROUND ONE	X				
22	" "		X			
23	" "			X		
24	" "				X	
25	" "					X
26	ROUND I	X				
27	" "		X			
28	" "			X		
29	" "				X	
30	" "					X

torial display of the events.

Description of the Delphi Instrument

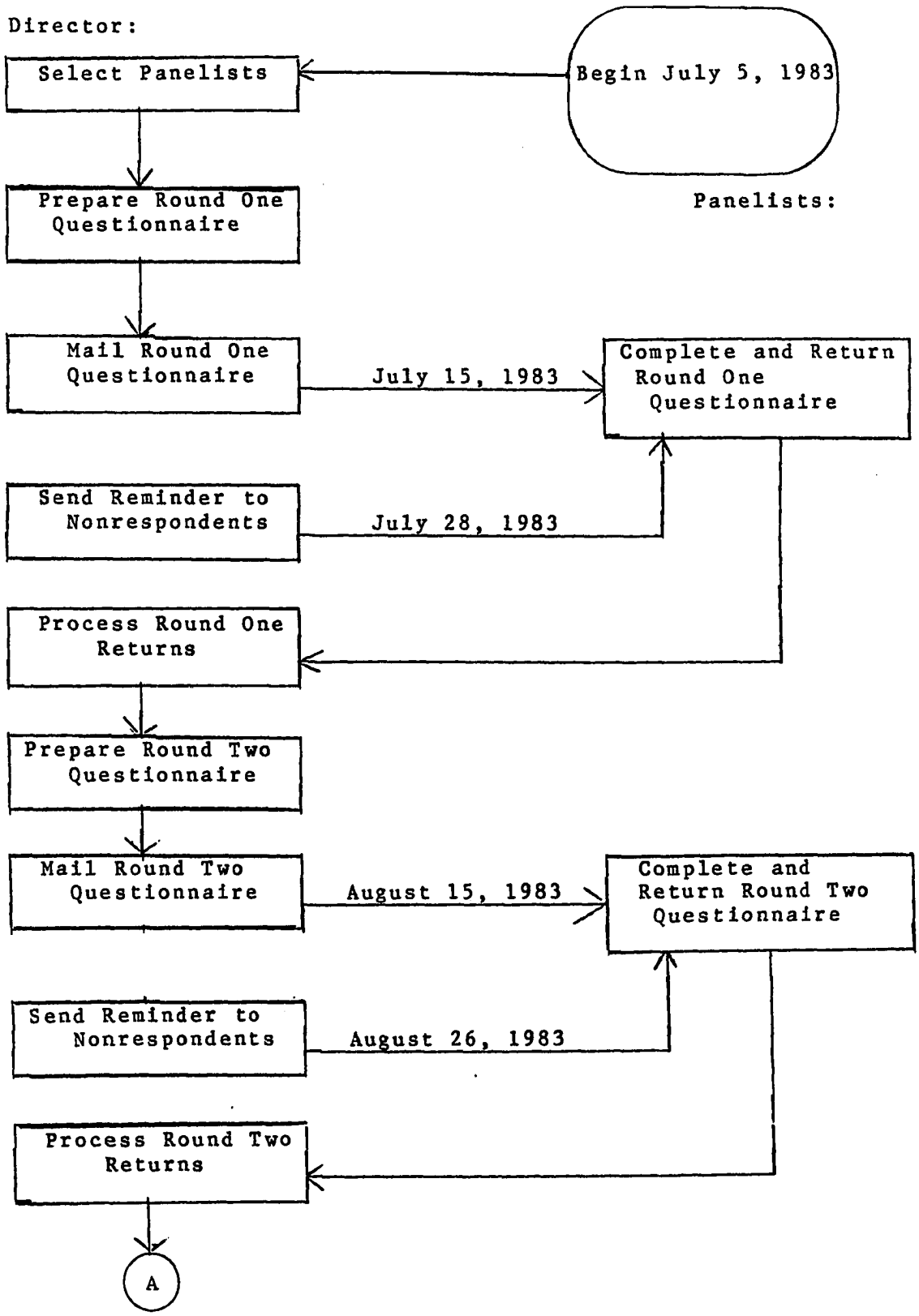
Round One Questionnaire

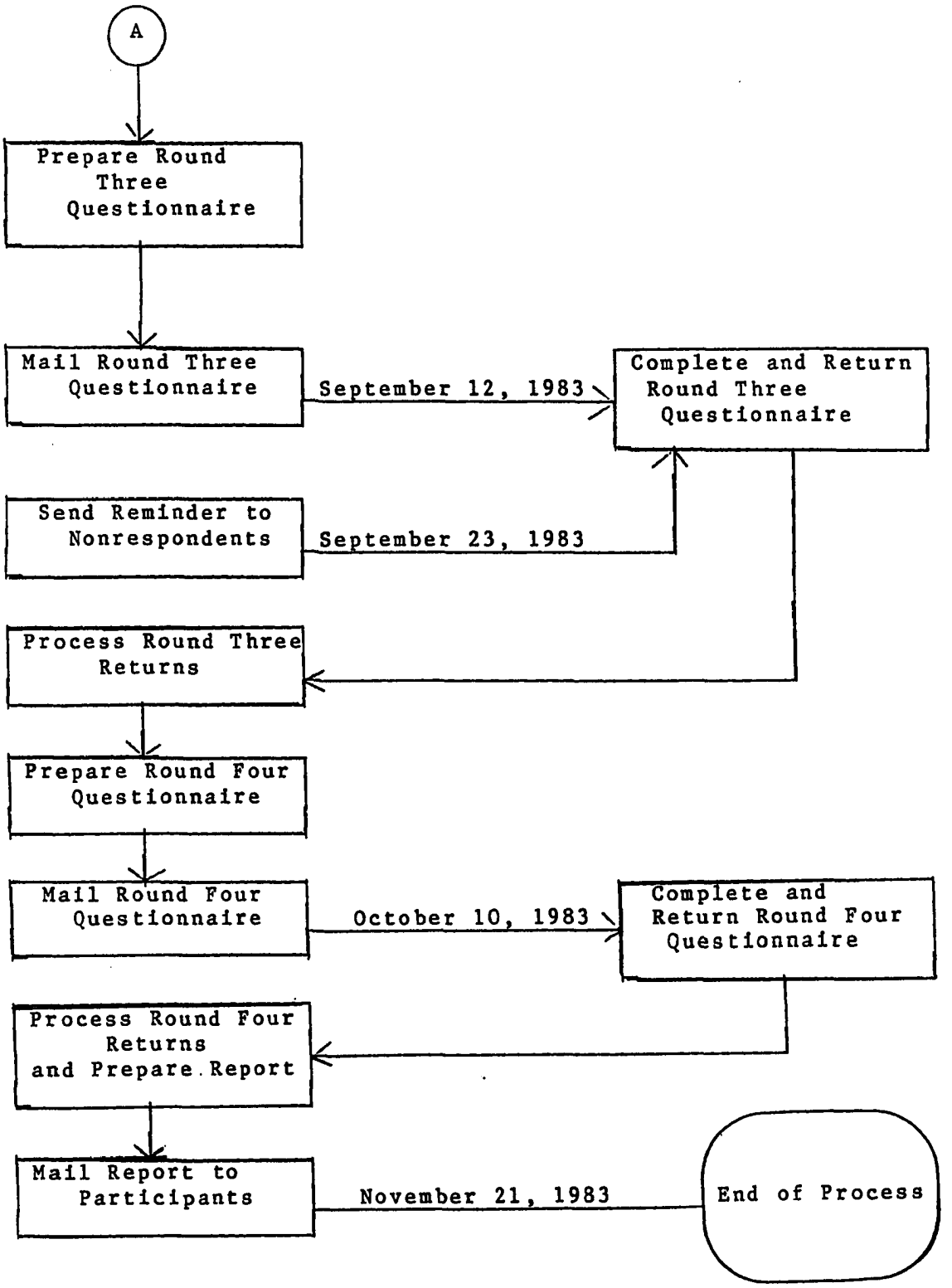
The first questionnaire asked administrators to respond to two questions regarding future enrollment of adults in higher education. The first question requested a list of enrollment trends that, in the administrator's judgment, may be expected to occur in higher education institutions within the next 20 years. Question number two asked what changes, if any, in the judgment of the administrator, may be expected to occur in institutions as providers for adult learners within the next 20 years. Respondents were advised that adult students, for this study, are defined as individuals over 30 years of age. They were told to be brief, but to adequately express their ideas (Appendix A).

Accompanying the questionnaire was a letter inviting each administrator to participate in the study. Also included was a single page description of the Delphi process, a postage-paid addressed envelope for returning the completed questionnaire, and a copy of a memorandum from the President of East Central Oklahoma State University endorsing the study. A return within seven days was requested. Questionnaires were coded for ease in contacting nonrespondents, and a second letter and postage-paid envelope was mailed to

TABLE 2

TIME SCHEDULE FOR DELPHI STUDY




A
Prepare Round Three Questionnaire
Mail Round Three Questionnaire
September 12, 1983
Complete and Return Round Three Questionnaire
Send Reminder to Nonrespondents
September 23, 1983
Process Round Three Returns
Prepare Round Four Questionnaire
Mail Round Four Questionnaire
October 10, 1983
Complete and Return Round Four Questionnaire
Process Round Four Returns and Prepare Report
Mail Report to Participants
November 21, 1983
End of Process

prospective panelists who had not responded to the invitation to participate within two weeks of the first mailing. The importance of their participation in the study was emphasized, and further consideration was requested. At the end of four weeks, a total of 38 questionnaires had been completed and returned.

Round Two Questionnaire

Responses received from Round One were summarized and synthesized into statements for consideration in Round Two. Question I, requesting a list of expected adult enrollment trends, produced 15 statements. Thirty items were developed from responses to Question II, which asked for anticipated institutional changes in higher education as providers for adult learners.

Before mailing the second round questionnaire to the panelists, three members of the original pilot panel were asked to review the instrument. Minor changes were made as recommended for clarification.

The Round Two questionnaire was mailed to the entire population of 60, inviting further consideration from even those who had not responded to the first questionnaire. Panelists were asked to indicate, based on a seven-point scale, the likelihood that each predicted event and expected change would occur within the next 20 years. The seven category ratings were defined as follows: (1) certain; (2)

almost certain; (3) probable; (4) uncertain; (5) not probable; (6) practically impossible; (7) impossible.

A letter to each panelist explained the process by which the second round questionnaire was developed, and invited participation whether or not the individual had responded in the first round of questioning. The letter explained the process whereby the statements were developed, and encouraged respondents to make additional comments if desired.

Also included in Round Two was a request for demographic data. Panelists were asked to provide information regarding age, sex, number of years in higher education, number of years in present position, and type of college or university with which they were associated. This information was needed in order to compare responses of participants based on these categories. The decision was made to request the information in Round Two rather than in Round One because the data were needed only from those who chose to respond at this stage. It was also presumed that the likelihood to participate would be enhanced by requesting the minimum amount of information required at initial contact with prospective panelists. Confidentiality was again assured to all respondents, and postage-paid envelopes were enclosed for use in returning the completed questionnaires (Appendix B).

At the end of two weeks, a second copy of the Round Two questionnaire and a postage-paid envelope were mailed to each

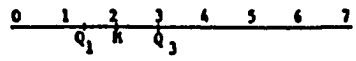
person who had not responded to the first mailing. The panelists were urged to participate in the study by returning the completed questionnaires even though the requested deadline was past. Forty-two questionnaires were returned before the Round Three questionnaire was prepared.

Round Three Questionnaire

The Round Three questionnaire was developed by processing information submitted by respondents in Round Two. Since this round requested review of responses from the previous round, the Round Three questionnaire was sent only to the 42 individuals who had returned the Round Two questionnaire. The forms were later mailed to two more panelists who submitted their Round Two questionnaires after the deadline.

The mean, median, mode, and quartile rankings were calculated for each item, using information supplied by respondents to the Round Two questionnaire. The two questionnaires received after preparation and mailing of Round Three were received too late to include in the calculations. Only the median and interquartile range for each item were presented to the panelists. According to Helmer (1966) and Dalkey (1969), these are the statistical measures that are most likely to be representative of the group response in a Delphi study.

The median and first and third quartile points for each item were illustrated on a seven-point scale, as in this

example:  . A statement accompanying the instructions for completing the Round Three questionnaire explained that the interval between the points marked "Q_1" and "Q_3" contained the middle 50 percent of the responses for the particular statement, and that the median marked "M" represented the midpoint of all responses for that item, with 50 percent of the responses above it and 50 percent below it.

Panelists were asked to respond only to statements for which their expectations were outside the Q_1-Q_3 interquartile range, by circling the numbers on the seven-point scale that corresponded to their predictions, using the same representation of category ratings described in the previous round. These ratings were listed below the instructions for reference.

Participants were asked to make comments on any items to which they responded. Comments were also solicited for two statements which in the previous round had been considered ambiguous by panelists.

A letter was sent with each questionnaire requesting a return within 10 days. Panelists were asked to return the questionnaire even if no changes were made, since an unmarked return would signify agreement with group consensus. Participants were also informed that Round Four data would be compiled from their returns and would reflect any redistribu-

tion of responses, and would contain comments made by respondents (Appendix C).

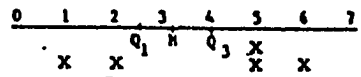
Two weeks after the first mailing, a second letter was mailed to panelists who had not responded at that time. Anyone who desired to indicate disagreement with the consensus information was encouraged to do so immediately; otherwise, panelists were advised that a nonreturn would be interpreted as agreement.

Round Four Questionnaire

Round Three questionnaire responses provided data for preparing the Round Four questionnaire. The questionnaire was mailed to the 44 individuals who had participated in the last two rounds.

The mean, median, mode, and quartile rankings were calculated for each item, based on responses to the Round Three questionnaire. As in the last round, only the median and quartiles one and three were included for submission to panelists. This explanation was again included with instructions for completion of the forms. All comments transmitted by respondents in Round Three were incorporated into each item. Remarks concerning the two statements for which comments were specifically requested were listed on two separate pages, marked appropriately, and attached to the list of items.

Predictions made by respondents who had circled num-

bers on the scales were indicated by "x" at the proper positions thus: 

. This information was relayed as part of the instructions. Although responses had been requested only for items in which predictions were outside the interquartile range, panelists marked some items within the range; therefore, these responses were also designated "x."

A letter mailed with the questionnaire asked panelists to review the changes and comments reflected as a result of Round Three responses, and respond only to items for which they desired to change the prediction they made in Round Three. They were instructed to use the same scaling categories as in previous rounds, and to circle the number representing their predictions. The scale was again listed on the questionnaire for reference. They were also invited to make any comments they chose concerning remarks made by other panelists whether in support or disagreement (Appendix D).

A postage-paid envelope was enclosed, but participants were advised that no return was necessary unless changes or comments were made. Nonreturns, they were told, would be recorded as being in agreement with their Round Three submissions. Return within two weeks was requested if responses were made.

Final Report

Responses to the Round Four questionnaire were pro-

cessed to determine changes of opinion made by panelists. Mean, median, mode and interquartile rankings were calculated for items for which changes were recorded.

All questionnaire items were analyzed for consensus ratings using both the adaptation of the Cochran model and the Scheibe, Skutsch and Schofer model. Results were incorporated into a final summary report which was forwarded to the 44 panelists who completed the study. A letter accompanied the report expressing appreciation to the participants for their assistance in the Delphi panel. (Appendix H).

Summary

This study was performed using the Delphi technique for eliciting group opinion. Expert predictions were solicited regarding future enrollment of adults in higher education during the next 20 years. Expectations of institutional changes to accommodate this student body were also requested.

Applying Delphi methods and models described in the previous chapter, a program was outlined for implementing the study. Similar time intervals were employed by Transier (1977), Brooks (1981), Jones (1982), and Smart (1982), and fell within the range recommended by Martino (1972, p. 22) and Skutsch and Hall (1973, p. 10). Close adherence to the schedule helped to maintain a continuous sequence of feedback and maximized the effectiveness of the process. The length of time delay between rounds, according to Transier, may

alter the results of a Delphi study.

The first and second round questionnaires were mailed to the entire population selected for the study. The individuals who received the third and fourth round questionnaires were determined on the basis of their participation in the first two rounds. Table 3 illustrates the activity of the respondents and depicts the response rate of the panelists by number and percentages.

Treatment of the Data

Round One responses were analyzed and consolidated as a means of eliminating duplications of predictions. No statistical treatment was applied in this round.

Data collected in Rounds Two and Three were processed to determine the mean, median, mode, and quartile rankings for each item of the questionnaires.

The three measures of central tendency were compared to determine their relationships for each item. Although the median is the most appropriate measure for ordinal data and has been shown by Helmer (1966) and Dalkey (1969) to be the preferred statistic for application in a Delphi study, skewed distributions would be revealed in cases where the measures were not identical (Downie and Heath, 1974). None of the items displayed skewedness in results (See Table 11).

The interquartile range determined by calculation of the first and third quartiles was used as a measure of panel

TABLE 3

DELPHI STUDY QUESTIONNAIRE RESPONSE

	ROUND ONE			ROUND TWO		
	Population	Number of Responses	Percentage of Responses	Population	Number of Responses	Percentage of Responses
Deans of Students	30	15	50	30	18	60
Directors of Continuing Education	30	23	77	30	26	87
	60	38	63	60	44	73

	ROUNDS THREE and FOUR		
	Population	Number of Responses	Percentage of Responses
Deans of Students	18	18*	100*
Directors of Continuing Education	26	26*	100*
	44	44*	100*

*Nonreturns were calculated as being in agreement with group consensus, per instructions.

consensus and agreement. From a model suggested in a study by Binning, Cochran, and Donatelli (1972), Cochran developed a scale for measuring panel agreement and consensus. His adaptation of the model defined five numerical levels to compute agreement/consensus of the Delphi panel.

The Cochran model was based on a 1 to 7 Likert scale questionnaire, with 1 representing disagreement, and 7 representing agreement. Acceptance of consensus required a maximum interquartile range of 2.00, and a median of 5.50 or more designated panel agreement. This standard was applied in a study by Jones (1982) to measure relevancy of results. Adapted to the present study, in which 1 on the scale represents likelihood of occurrence and 7 represents low expectation of occurrence, a maximum interquartile range of 2.00 and a median of 2.50 or less would signify agreement/consensus that the event would occur. This adaptation is shown in Table 4.

Stability of panelist responses were measured using the model developed by Scheibe, Skutsch, and Schofer (1975, p. 279). Based on studies of observed movement between rounds, this model calculates the amount of group change that may be expected to occur and still maintain a state of equilibrium. Any panel selection displaying less than 15 percent change between rounds, according to this analysis, is said to have reached stability. This stability measure accomplishes one of the original objectives of Delphi in identifying areas of

TABLE 4

MODEL FOR COMPUTING LEVELS OF AGREEMENT AND CONSENSUS FOR DELPHI STUDY

Median		Interquartile Range		Agreement/Consensus
1.50	0.50	1.49	0.00	Very High
2.00	1.49	1.99	1.50	High
2.50	1.99	2.49	2.00	Moderately High
3.50	2.49	2.99	2.50	Worth Consideration
7.00	3.49	7.50	3.00	Negligible Agreement

difference as well as areas of agreement within the panel, and "has much greater power and validity than parametric tests of variance" (p. 280).

CHAPTER IV

FINDINGS

Introduction

Data for this study were collected through application of the Delphi technique described in the previous chapter. Statistical analysis procedures used on the data were aimed at generating information through iteration and feedback to identify expected changes in higher education in Oklahoma and future enrollment of adults at these institutions, as perceived by knowledgeable individuals. Respondent predictions by demographic classification were also analyzed.

The Delphi Panel

Sixty deans of students and directors of continuing education were invited to participate in the Delphi study, and were mailed the first questionnaire. Fifteen deans of students and 23 directors of continuing education responded to the initial questionnaire, a total of 38 individuals. By the end of the third round, six more had responded, making a total of 44 panelists, of whom 26 were directors of continuing education and 18 deans of students. This represented

a response rate of 63 percent of the number originally invited to serve as panelists. Table 3 illustrates the participation rate for all rounds of the study.

Demographic data in five categories were gathered from the 44 committed panelists. This information provided a profile of respondents for the study, and was used to compare responses by administrative positions and type of institution where employed.

Age of Panelists

Of the 44 respondents who supplied demographic information, the largest number, 13, was in the 46-50 age range, representing 29.5 percent of the total. The next largest age bracket was 36-40, with 11, or 25 percent, representing this range. Eight individuals reported ages of 41-45, for 18.1 percent, and six were 51-55 years of age, representing 13.6 percent of the total. Three individuals, 6.8 percent, were over 55, two were under 30 (4.5 percent), and only one (2.3 percent) was 30-35 years of age.

Sex of Panelists

Thirty-five of the panelists were male, representing 79.5 percent of the total, and nine were female, for 20.5 percent.

Type of College or University

An equal number of respondents reported affiliation

with two-year and with regional/senior institutions, with 20, or 45.5 percent, indicating each category. Four, or 9 percent, were employed by comprehensive universities. Of these numbers, 41 of the institutions represented (93.2 percent) were public, and three (6.8 percent) were private.

Years Employed in Higher Education

Fourteen individuals reported employment of 11-15 years in higher education, representing 30.8 percent of the total. Twelve panelists (27.2 percent) had been employed 5-10 years; eleven (25 percent) reported over 20 years; seven (15.9 percent) reported 16-20 years; and only one (2.3 percent) under five years.

Years in Present Position

The majority of the panelists were relative newcomers in their present positions, with 18 (40.9 percent) reporting under five years employment, and 14 (30.8 percent) showing 5-10 years of service. Nine individuals indicated 11-15 years employment, representing 20.5 percent of the total; two (4.5 percent) reported over 20 years; and one (2.3 percent) specified 16-20 years.

Administrative Position

The 26 directors of continuing education who participated in the study represented 59.1 percent of the total, and the 18 deans of students made up the remaining 40.9 percent.

Profile of the Panelists

Applying the modal response from each category, it appears that the representative panelist would be a male, age 46-50. He would be employed at a public two-year or regional university as a director of continuing education. He would have been employed in higher education for 11-15 years, and in his present position for under five years.

Responses to the Questionnaires

First Round

The 38 panelists who returned the first questionnaire generated 107 statements in response to the request for a prediction of enrollment trends that might be expected to occur among adult learners in higher education institutions within the next 20 years. In response to the request for a prediction of changes that may be expected to occur in higher education institutions in the next 20 years, 165 statements were produced (Appendix E).

Each statement was reproduced on a 3" x 5" note card for sorting and synthesizing. Duplications were eliminated and similar statements were combined in the process of developing a manageable instrument for the next round of questioning. This was done in accordance with Martino's (1972, p. 22) guidelines that "events must be identified, similar events consolidated, unimportant (for the purposes of the director) events eliminated, and the final list of events

prepared in as clear terms as possible."

Fifteen statements were derived for the list of enrollment trends that might be expected to occur in the next 20 years, and 30 items were produced for the list of changes anticipated in higher education institutions during the same period of time. The resulting instrument formed the second questionnaire.

Second Round

The entire population of 60 individuals were again invited to participate in the study, whether or not they had been involved in the first round of questioning. Of this number, 42 responded, producing an initial return rate of 70 percent. Two more questionnaires received after data had been processed raised the return rate to 73 percent. They arrived too late, however, to be included in statistical operations of second round results, and were not reflected in the third round questionnaire.

The mean, median, mode, and interquartile range were calculated for each item of the Round Two questionnaire. The results are shown in Table 5.

Inspection of numerical values for the interquartile range for each item revealed only one that exceeded the 2.00 rating required for agreement/consensus on the Cochran scale

Table 5
ITEM RATINGS
ROUND TWO

I. Please list enrollment trends that, in your judgment, may be expected to occur among adult learners in higher education institutions within the next 20 years.	Md.	Mn.	Mo.	Intq. Rnge
1. Adult enrollment will increase in vocational/technical areas.	1.89	2.00	2.00	1.56
2. Adult enrollment in basic educational skills will increase.	2.38	2.43	2.00	1.48
3. Enrollment of adult students will decrease.	5.40	5.62	5.00	1.54
4. Part-time adult enrollment will increase.	1.61	1.69	1.00	1.14
5. Full-time adult enrollment will increase.	2.58	2.74	2.00	1.57
6. Adult enrollment will increase through the 1990s, then begin a slow decline.	4.24	4.21	4.00	1.19
7. Enrollment will increase in short courses (less than a full semester).	2.00	2.02	2.00	1.26
8. Adults will seek more credentials (certificates or advanced degrees).	2.39	2.33	2.00	1.60
9. Adults will not be interested in degree or certificate programs, but in learning for personal development.	4.50	4.05	5.00	1.85
10. Adult participation in education as a leisure activity will increase.	2.57	2.60	3.00	1.61
11. Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.)	1.98	2.00	2.00	1.03
12. Adult enrollment trends will follow entry, exit, re-entry concept.	2.43	2.57	2.00	1.61
13. Participation in learning activities through private corporations and other nontraditional institutions will continue as educational institutions fail to meet the needs of adults.	2.64	2.69	3.00	1.59
14. Increase in mandated professional education will create a greater participation in adult learning activities.	2.28	2.33	2.00	1.33
15. The associate degree will replace the high school diploma as the lowest desired level of education.	3.81	3.62	4.00	1.75

II. In your judgment, what changes, if any, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years?	Md.	Mn.	Mo.	Intq. Rnge.
1. Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.	1.86	1.93	2.00	1.03
2. Institutions will develop better communications with the community to determine needs and interests of adults.	2.02	2.17	2.00	0.90
3. Funding patterns will be changed to make financial aid available to the part-time and/or non-credit student.	3.19	3.12	3.00	1.47
4. More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.	2.15	2.24	2.00	1.37
5. Faculty development will become important as professors learn new techniques of teaching and working with adult students.	2.06	2.33	2.00	1.62
6. Relationships between students and faculty will become more casual, less formal.	2.93	2.93	3.00	0.95
7. Physical facilities and furniture will be designed for adult comfort and convenience.	3.77	3.52	5.00	1.82
8. More married-student and single-parent housing will be made available.	3.85	3.71	4.00	1.31
9. Institutions will provide child care for mothers returning to school.	2.94	3.02	3.00	1.31
10. Counseling, advisement, and career programs will be directed more toward older students.	2.61	2.62	3.00	1.30
11. More evening courses will be offered.	2.29	1.52	2.00	0.78
12. More weekend classes will be offered.	2.18	2.40	2.00	1.27
13. More courses will be offered in formats shorter than the traditional semester.	2.00	2.05	2.00	1.27
14. Intensive short term programs (less than 2 years) will be developed.	2.21	2.33	2.00	1.24
15. Admission and enrollment procedures will be simplified.	2.43	2.62	2.00	1.68
16. The number of students being served off-campus through educational technology will be equal to the number served on-campus.	4.19	4.50	5.00	1.57

II. In your judgment, what changes, if any, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years? (continued)	Md.	Mn.	Mo.	Intq. Rnge.
17. Extension courses will increase in popularity, and will achieve resident credit status.	3.03	3.07	3.00	1.55
18. An effective evaluation process will be developed to validate prior learning experiences of adults for granting of credit.	2.90	2.88	3.00	1.27
19. Enforcement of academic standards will be emphasized in order to maintain credibility among the general public.	2.80	2.76	3.00	1.07
20. Consortial relationships among institutions will be formed to share equipment, libraries, faculty, personnel, facilities, etc.	2.78	2.74	3.00	1.20
21. More cooperative arrangements with business/industry/ government agencies will improve program development and delivery for adult learners.	2.22	2.33	2.00	1.32
22. Higher education will shift emphasis from degree-granting to service-provider for the learner.	3.43	3.55	3.00	1.81
23. Non-credit learning activities will receive the same type of government funding support as credit courses.	4.42	4.36	4.00	0.72
24. Record-keeping of non-credit learning will be as important as that of credit activities.	3.04	2.95	3.00	2.14
25. More occupational/technical courses will be offered.	2.32	2.33	3.00	1.29
26. Institutions will increase offerings in leisure activities.	2.50	2.50	2.00	1.34
27. Institutions will expand programs in liberal arts, humanities, and fine arts.	3.50	3.55	3.00	1.79
28. Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.	1.97	2.14	2.00	1.56
29. Regional and graduate institutions will provide stronger programs for adult learners than will the community and junior colleges.	4.63	4.57	5.00	1.79
30. Most institutions will make only a "cosmetic" commitment to the adult learner.	4.80	4.48	5.00	1.62

(Binning, Cochran and Donatelli, 1972). This item also failed to meet the median criterion as established in the adaptation of the model illustrated in Table 3. The following item, with median of 3.04 and interquartile range of 2.14, did not meet agreement/consensus requirements: Record-keeping of noncredit learning will be as important as that of credit activities.

Of the other 44 items, 23 were within acceptable limits for interquartile range, indicating consensus, but exceeded the 2.50 median standard required to predict likelihood of occurrence. The remaining 21 items met both requirements, signifying panel agreement/consensus and reflecting expectations that the events will occur with some degree of certainty. Table 6 lists the items that met criteria for median and interquartile agreement/consensus ratings, and reflects data for these items compiled from the Round Two returns.

Third Round

Of the 44 panelists who were sent the Round Three questionnaire, 38 actually returned their forms; 15 deans of students and 23 directors of continuing education. The six nonreturns were counted as being in agreement with panel consensus as shown on the seven-point scale for each item. This produced a return rate of 100 percent, based on number of participants in Round Two.

Martino (1972, p. 23) suggests that items need not be

Table 6

ROUND TWO

AGREEMENT/CONSENSUS ITEMS	Md.	Intq. Rnge.
. Adult enrollment will increase in vocational/technical areas.	1.89	1.56
. Adult enrollment in basic educational skills will increase.	2.38	1.48
. Part-time adult enrollment will increase.	1.61	1.14
. Enrollment will increase in short courses (less than a full semester).	2.00	1.26
. Adults will seek more credentials (certificates or advanced degrees).	2.29	1.60
. Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.)	1.98	1.03
. Adult enrollment trends will follow entry, exit, re-entry concept.	2.43	1.61
. Increase in mandated professional education will create a greater participation in adult learning activities.	2.28	1.33
. Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.	1.86	1.03
. Institutions will develop better communications with the community to determine needs and interests of adults.	2.02	0.90
. More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.	2.15	1.37
. Faculty development will become important as professors learn new techniques of teaching and working with adult students.	2.06	1.62
. More evening courses will be offered.	2.27	0.78
. More weekend classes will be offered.	2.18	1.27

	Md.	Intq Rnge
. More courses will be offered in formats shorter than the traditional semester.	2.00	1.27
. Intensive short term programs (less than 2 years) will be developed.	2.21	1.24
. Admission and enrollment procedures will be simplified.	2.43	1.68
. More cooperative arrangments with business/industry/ government agencies will improve program development and delivery for adult learners.	2.22	1.32
. More occupational/technical courses will be offered.	2.32	1.29
. Institutions will increase offerings in leisure activities.	2.50	1.34
. Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.	1.97	1.56

carried through all rounds if panel consensus is reached earlier. He particularly supports this practice if the panel agrees that an event will never take place. It was decided, nevertheless, to include all items in this questionnaire in order to give panelists an opportunity to make comments supporting or disagreeing with outcomes. It also provided the panel a comparative view of responses with the original questionnaire form intact.

Through use of the coding system, panelists were identified who made changes in the responses they gave in Round Two. This allowed the recording of responses for panelists who either returned their questionnaries without changes, or were counted as being unchanged by reason of nonreturn.

Analysis of returns disclosed only 43 responses that represented changes from a total of 1,980 possible choices (44 panelists x 45 items). This indicates that the panel for this study was composed principally of holdouts, individuals maintaining their positions throughout the questioning process, and generally not influenced by panel feedback.

The mean, median, mode, and interquartile range were calculated for each item (Table 7). Examination of the data disclosed two statements that did not meet acceptable standards for agreement/consensus, both exceeding the median limit of 2.50 and the interquartile limit of 2.00. This information is shown in Table 8.

Table 7
ITEM RATINGS
ROUND THREE

I. Please list enrollment trends that, in your judgment, may be expected to occur among adult learners in higher education institutions within the next 20 years.	Md.	Mn.	Mo.	Intq Rnge
1. Adult enrollment will increase in vocational/technical areas.	1.90	2.00	2.00	1.16
2. Adult enrollment in basic educational skills will increase.	2.38	2.45	2.00	1.36
3. Enrollment of adult students will decrease.	5.41	5.64	5.00	1.51
4. Part-time adult enrollment will increase.	1.66	1.73	1.00/ 2.00	1.53
5. Full-time adult enrollment will increase.	2.57	2.75	2.00	1.53
6. Adult enrollment will increase through the 1990s, then begin a slow decline.	4.25	4.25	4.00	1.17
7. Enrollment will increase in short courses (less than a full semester).	2.00	1.95	2.00	1.24
8. Adults will seek more credentials (certificates or advanced degrees).	2.37	2.27	2.00	1.45
9. Adults will not be interested in degree or certificate programs, but in learning for personal development.	4.10	4.02	5.00	1.86
10. Adult participation in education as a leisure activity will increase.	2.57	2.59	3.00	1.57
11. Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.)	2.00	2.02	2.00	1.00
12. Adult enrollment trends will follow entry, exit, re-entry concept.	2.50	2.57	3.00	1.52
13. Participation in learning activities through private corporations and other nontraditional institutions will continue as educational institutions fail to meet the needs of adults.	2.63	2.75	3.00	1.60
14. Increase in mandated professional education will create a greater participation in adult learning activities.	2.38	2.52	2.00	1.37
15. The associate degree will replace the high school diploma as the lowest desired level of education.	4.04	3.68	5.00	1.73

II. In your judgment, what changes, if any, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years?	Md.	Mn.	Mo.	Intq. Rnge.
1. Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.	1.86	1.93	2.00	1.07
2. Institutions will develop better communications with the community to determine needs and interests of adults.	2.02	2.16	2.00	0.96
3. Funding patterns will be changed to make financial aid available to the part-time and/or non-credit student.	3.15	3.16	3.00	1.50
4. More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.	2.17	2.27	2.00	1.37
5. Faculty development will become important as professors learn new techniques of teaching and working with adult students.	2.06	2.32	2.00	1.65
6. Relationships between students and faculty will become more casual, less formal.	2.96	2.95	3.00	0.92
7. Physical facilities and furniture will be designed for adult comfort and convenience.	3.75	3.50	4.00/ 5.00	1.82
8. More married-student and single-parent housing will be made available.	3.83	3.91	4.00	1.34
9. Institutions will provide child care for mothers returning to school.	3.03	3.07	3.00	1.48
10. Counseling, advisement, and career programs will be directed more toward older students.	2.61	2.64	3.00	1.29
11. More evening courses will be offered.	1.98	2.02	2.00	0.92
12. More weekend classes will be offered.	2.28	2.39	2.00	1.37
13. More courses will be offered in formats shorter than the traditional semester.	2.06	2.27	2.00	1.34
14. Intensive short term programs (less than 2 years) will be developed.	2.26	2.36	2.00	1.26
15. Admission and enrollment procedures will be simplified.	2.37	2.55	2.00	1.86
16. The number of students being served off-campus through educational technology will be equal to the number served on-campus.	4.05	3.86	5.00	2.01

II. In your judgment, what changes, if any, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years? (continued)	Md.	Mn.	Mo.	Intq. Rnge.
17. Extension courses will increase in popularity, and will achieve resident credit status.	3.00	3.09	3.00	1.73
18. An effective evaluation process will be developed to validate prior learning experiences of adults for granting of credit.	2.88	2.95	3.00	1.50
19. Enforcement of academic standards will be emphasized in order to maintain credibility among the general public.	2.76	2.73	3.00	1.12
20. Consortial relationships among institutions will be formed to share equipment, libraries, faculty, personnel, facilities, etc.	2.83	2.98	3.00	1.22
21. More cooperative arrangements with business/industry/ government agencies will improve program development and delivery for adult learners.	2.29	2.55	2.00	1.44
22. Higher education will shift emphasis from degree-granting to service-provider for the learner.	3.50	3.84	3.00	1.64
23. Non-credit learning activities will receive the same type of government funding support as credit courses.	4.36	4.25	5.00	1.43
24. Record-keeping of non-credit learning will be as important as that of credit activities.	3.07	3.30	4.00	2.16
25. More occupational/technical courses will be offered.	2.33	2.27	2.00	1.32
26. Institutions will increase offerings in leisure activities.	2.50	2.50	2.00	1.32
27. Institutions will expand programs in liberal arts, humanities, and fine arts.	3.43	3.77	3.00	1.80
28. Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.	1.97	2.11	2.00	1.43
29. Regional and graduate institutions will provide stronger programs for adult learners than will the community and junior colleges.	4.62	5.00	5.00	1.72
30. Most institutions will make only a "cosmetic" commitment to the adult learner.	4.79	4.55	5.00	1.51

TABLE 8

Round Three Items Not Meeting Agreement/Consensus Criteria

	Md.	Intq. Rnge.
°Record-keeping of noncredit learning will be as important as that of credit activities	3.07	2.16
°The number of students being served off-campus through educational technology will be equal to the number served on-campus.	4.05	2.01

In response to the first item, Record-keeping of noncredit learning will be as important as that of credit activities, four panelists indicated disagreement with consensus. Comments regarding this statement supported a belief that higher education would continue to be degree oriented. The resulting statistics for this item changed minimally from those calculated from the Round Two responses. The minor changes may be attributed to the inclusion of the two questionnaires that were returned too late to include in the second round calculations.

The second item, The number of students being served off-campus through educational technology will be equal to the number served on-campus, elicited responses from seven panelists who disagreed with group consensus. Twelve panelists acknowledged the director's request for comments in

regard to possible ambiguity regarding this item. These remarks are listed in Appendix F.

Examination of Table 9 showing agreement/consensus of items on the basis of the criteria established for median and interquartile range reveals no change in the list compiled from the Round Two responses. Minor changes resulting from new panel input did not affect the outcomes for any items in this category.

The only change resulting from feedback to the panel during this round was in the item previously discussed regarding off-campus instruction through educational technology. The request for special attention to the statement may have been a contributing factor in the movement in ranking for this item. This change represents the only major change that occurred as a result of calculations for the new data.

There seemed to be general agreement that off-campus education through technology is expected to increase, but doubt that the number of students being served would equal the number of residence enrollments. The comparison of the two delivery systems created some difficulty for panelists in responding to the statement. A similar request for comments concerning another statement did not alter the classification status of the item, but did generate responses from fifteen panelists. In the previous round, ambiguity had been indi-

Table 9
ITEM RANKINGS
ROUND THREE

	Md.	Intq. Rnge.
. Adult enrollment will increase in vocational/technical areas.	1.90	1.16
. Adult enrollment in basic educational skills will increase.	2.38	1.36
. Enrollment will increase in short courses (less than a full semester).	2.00	1.24
. Adults will seek more credentials (certificates or advanced degrees).	2.37	1.45
. Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.)	2.00	1.00
. Adult enrollment trends will follow entry, exit, re-entry concept.	2.37	1.45
. Increase in mandated professional education will create a greater participation in adult learning activities.	2.00	1.00
. Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.	2.50	1.52
. Institutions will develop better communications with the community to determine needs and interests of adults.	2.38	1.37
. More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.	1.86	1.07
. Faculty development will become important as professors learn new techniques of teaching and working with adult students.	2.02	0.96
. More evening courses will be offered.	2.17	0.92
. More weekend classes will be offered.	2.28	1.37
. More courses will be offered in formats shorter than the traditional semester.	2.06	1.34

	Md.	Intq. Rnge.
· Part-time adult enrollment will increase.	1.67	1.16
· More cooperative arrangements with business/industry/ government agencies will improve program development and delivery for adult learners.	2.29	1.44
· More occupational/technical courses will be offered.	2.33	1.20
· Institutions will increase offerings in leisure activities.	2.50	1.32
· Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.	1.97	1.43
· Intensive short term programs (less than 2 years) will be developed.	2.26	1.26
· Admission and enrollment procedures will be simplified.	2.37	1.86

cated for the following item: Adults will not be interested in degree or certificate programs, but in learning for personal development. Panel responses to the request for comments are shown in Appendix F.

Panelists who commented generally agreed that both degrees and personal development would be strong motives for learning. Conflict arose when they were faced with making a choice between the two goals as stated. Comments made in reference to this item are also shown in Appendix F.

The director of the study might have been well-advised to reconstruct both statements for which ambiguity was indicated. Comments made by panelists suggested that there was complexity in the items that created difficulty in selecting appropriate responses. The desire to maintain consistency in the questionnaire from round to round and the expectation of reaching conclusions through interpretation of the comments influenced the decision not to revise the questionnaire.

It should be noted that failure to meet standards for agreement/consensus as established on the median scale does not necessarily indicate disagreement and/or lack of consensus. Consensus is generally assumed to have been achieved when 50 percent or more of the responses fall within a two-unit range on a ten-unit scale (Scheibe, Skutsch, & Schofer, 1975). The acceptance of 2.50 as the maximum median range merely signifies that any event represented by a numerical value in excess of this figure is not expected to occur with

any degree of certainty.

Fourth Round

One hundred percent response from the panel was recorded for Round Four, in accordance with instructions stating that nonreturns would be counted as being in agreement with group consensus. Actual mail-in returns numbered 14, with six showing neither changes nor comments and eight containing both.

Panelist responses were recorded and median, mean, mode, and interquartile range were calculated for each item for which responses were made. Statistical changes resulting from the computations were slight in all cases, and created only one shift in item outcome. Having an upper limit median of 2.50 at the end of Round Two, one item moved to 2.57. This statement, Adult enrollment trends will follow entry, exit, re-entry concept, now placed out of agreement on the agreement/consensus scale. This change was a result of input from only one panelist, who moved his opinion out of consensus to an uncertain position. He made no comment to support his position.

Respondent comments made in reference to questionnaire items or to panelist comments from the previous round are recorded in Appendix G. Most remarks were in support of the predictions, with some minor disagreements indicated.

Stability Analysis

Applying the Scheibe, Skutsch, and Schofer (1975) method for measuring stability of responses, each item was examined to determine the stability of panelists' opinion distribution curve over successive rounds of questioning.

Respondent changes in ratings between rounds two and three, and between rounds three and four, were tallied for each item. The absolute value was computed for each rating, and the total number of changes was calculated for each item. The results obtained represent total units of change for each item, but since each individual's change of prediction represents two units of change, net person-changes must be computed by dividing total units by two. Finally, the percent of change is calculated by dividing the net person-changes by the total number of participants. Items exhibiting no change from round two to round four are considered to be in a state of equilibrium. Stability analysis of all items is shown in Table 10.

Accepting a state of equilibrium as being represented by a percentage change between rounds of 15 percent or less, all items were found to have reached stability at the end of the third round. According to Scheibe, Skutsch, and Schofer, consensus would have been declared for all predictions, and the Delphi study could have been terminated at that point.

Table 10

STABILITY ANALYSIS

Item No.	Absolute difference in number selecting rating rounds 2 - 3							Total units of change	Net person-changes	Percentage of change	Absolute difference in number selecting rating rounds 3 - 4							Total units of change	Net person-changes	Percentage of change
	1	2	3	4	5	6	7				1	2	3	4	5	6	7			
TRND																				
1		1	1					2	1	2.4								0	0	0
2		1	1					2	1	2.4								0	0	0
3						1	1	2	1	2.4								0	0	0
4		1	1		1	1		4	2	4.8		1				1		2	1	2.4
5		1			1			2	1	2.4								0	0	0
6		1	2	1				4	2	4.8								0	0	0
7	2	1			1			4	2	4.8		1	1					2	1	2.4
8	1	1		1	1			4	2	4.8								0	0	0
9		2	1	1	2			6	3	7.0				1		1		2	1	2.4
10								0	0	0								0	0	0
11								0	0	0								0	0	0
12			1	1				2	1	2.4		1		1				2	1	2.4
13								0	0	0								0	0	0
14		1		1				2	1	2.4								0	0	0
15	3	1	1	1	3	1		10	5	12.0		1		3	2			6	3	7.0
CHNG																				
1								0	0	0		1	1					2	1	2.4
2								0	0	0								0	0	0
3	1	1		1	2	1		6	3	7.5	1	2	2			1		6	3	7.0
4				1	1			2	1	2.4								0	0	0
5								0	0	0								0	0	0

Item No.	Absolute difference in number selecting rating rounds 2 - 3							Total units of change	Net person-changes	Percentage of change	Absolute difference in number selecting rating rounds 3 - 4							Total units of change	Net person-changes	Percentage of change
	1	2	3	4	5	6	7				1	2	3	4	5	6	7			
6			1	1				2	1	2.4	1	2		1				4	2	4.8
7								0	0	0	1		3	2				6	3	7.0
8	1		1	1	1			4	2	4.8		2		3	1			6	3	7.0
9	1	1	1	1	2			6	3	7.0			1		1			2	1	2.4
10				1	1			2	1	2.4								0	0	0
11								0	0	0								0	0	0
12								0	0	0								0	0	0
13								0	0	0								0	0	0
14								0	0	0		1	1					2	1	2.4
15				2	2			4	2	4.8								0	0	0
16		3	2	1	3	1		10	5	12.0				1	1			2	1	2.4
17		2	2		1	1		6	3	7.0			1	1				2	1	2.4
18	1	1				1	1	4	2	4.8	1	1	3	1				6	3	7.0
19								0	0	0		2	2					4	2	4.8
20			2	1	1			4	2	4.8		1	1					2	1	2.4
21								0	0	0								0	0	0
22	1	1						2	1	2.4			1	1	1	1		4	2	4.8
23		1	1					2	1	2.4								0	0	0
24								0	0	0								0	0	0
25								0	0	0								0	0	0
26								0	0	0								0	0	0
27								0	0	0		1	1					2	1	2.4

Item No.	Absolute difference in number selecting rating rounds 2 - 3							Total units of change	Net person-changes	Percentage of change	Absolute difference in number selecting rating rounds 3 - 4							Total units of change	Net person-changes	Percentage of change
	1	2	3	4	5	6	7				1	2	3	4	5	6	7			
28								0	0	0								0	0	0
29								0	0	0		1		1				2	1	2.4
30								0	0	0				1		1		2	1	2.4

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was conducted for the purpose of predicting future trends in adult enrollment in Oklahoma higher education institutions within the next 20 years, and institutional changes that may be expected to occur related to these trends. The Delphi technique was employed to collect data for the study from deans of students and directors of continuing education at Oklahoma higher education institutions. These individuals were selected to serve as members of the Delphi panel because of their knowledge of the needs and interests of adult students and because of the influence they have on institutional policy development. Sixty administrators were identified as fulfilling necessary panelist requirements for the study. Of this number, 44 individuals finally provided data through four rounds of questioning.

The entire population of 60 were invited to participate in the first round of questioning. They were asked to respond to two categories of inquiry by listing (1) predicted adult enrollment trends in Oklahoma higher education, and (2) anticipated institutional changes; both within the next 20 years. Responses produced 272 statements which were synthe-

sized into 45 items for consideration in the next round of questioning.

The second Delphi round was mailed to the original population of 60 administrators, requesting their opinions of the likelihood of occurrence for the stated events. They were asked to base their predictions on a time frame designated by a representative scale numbered one through seven. The 44 responses were analyzed and evaluated for agreement/consensus ratings and for relationships among mean, median, and mode.

Questionnaire number three provided a summary and consensus status for each item, with median and interquartile range illustrated. Panelists were asked to review the data, change their opinions if desired, and comment regarding any changes made. Only the 44 individuals who responded to Round Two were invited to participate in this round. Responses were processed by analyzing data for changes and recalculating measures where changes were made. Agreement/consensus ratings indicated convergence of opinion for all 45 items with little change in item predictions, and tests for stability demonstrated that panelists were not changing responses significantly between rounds. Round Four was carried out, nevertheless, in order to feed back comments from Round Three and provide panelists an opportunity to respond to statements made by other participants.

Round Four results were subjected to analysis for

agreement/consensus and stability ratings. Outcomes for each item supported data analysis from the previous round and further reinforced convergence of opinions.

Conclusions

Forty-five statements were produced with reference to the two major questions with which the study was concerned. Consensus was reached for all statements. Agreement in regard to the likelihood that the event would occur with any degree of certainty was indicated for 20 of the statements. Six items were given ratings in the uncertain category, and two ranked within .25 of a point of this rating. The single item receiving a not probable rating was Enrollment of adult students will decrease. Another statement placed near this rank with a 4.79 median: Most institutions will make only a "cosmetic" commitment to the adult learner. Results are shown in Table 11.

Uncertainty rankings were applied mainly to items dealing with expectations concerning adult interests in certificate and degree programs vs. learning for personal development; the level of commitment to adult learning by two-year vs. four-year institutions; and the future funding of noncredit activities. The uncertainty expressed by the administrators in this study cannot necessarily be construed as an unfamiliarity with the literature. Delphi studies in higher education studies reported in the literature involved

Table 11
FINAL RATINGS

I. Please list enrollment trends that, in your judgment, may be expected to occur among adult learners in higher education institutions within the next 20 years.	Md.	Mn.	Mo.	Intq. Rnge
1. Adult enrollment will increase in vocational/technical areas.	1.90	2.00	2.00	1.16
2. Adult enrollment in basic educational skills will increase.	2.38	2.45	2.00	1.36
3. Enrollment of adult students will decrease.	5.41	5.64	5.00	1.51
4. Part-time adult enrollment will increase.	1.67	1.77	1.00	1.20
5. Full-time adult enrollment will increase.	2.57	2.75	2.00	1.53
6. Adult enrollment will increase through the 1990s, then begin a slow decline.	4.25	4.25	4.00	1.17
7. Enrollment will increase in short courses (less than a full semester).	2.03	1.97	2.00	1.32
8. Adults will seek more credentials (certificates or advanced degrees).	2.37	2.27	2.00	1.45
9. Adults will not be interested in degree or certificate programs, but in learning for personal development.	4.17	4.07	5.00	1.86
10. Adult participation in education as a leisure activity will increase.	2.57	2.59	3.00	1.57
11. Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.)	2.00	2.02	2.00	1.00
12. Adult enrollment trends will follow entry, exit, re-entry concept.	2.57	3.23	2.57	1.44
13. Participation in learning activities through private corporations and other nontraditional institutions will continue as educational institutions fail to meet the needs of adults.	2.63	2.75	3.00	1.60
14. Increase in mandated professional education will create a greater participation in adult learning activities.	2.38	2.52	2.00	1.37
15. The associate degree will replace the high school diploma as the lowest desired level of education.	4.40	3.91	5.00	1.81

II. In your judgment, what changes, if any, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years?	Md.	Mn.	Mo.	Intq. Rnge.
1. Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.	1.88	2.70	2.00	1.11
2. Institutions will develop better communications with the community to determine needs and interests of adults.	2.02	2.16	2.00	0.96
3. Funding patterns will be changed to make financial aid available to the part-time and/or non-credit student.	3.15	3.23	3.00	1.48
4. More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.	2.17	2.27	2.00	1.37
5. Faculty development will become important as professors learn new techniques of teaching and working with adult students.	2.06	2.32	2.00	1.65
6. Relationships between students and faculty will become more casual, less formal.	3.00	2.95	3.00	0.94
7. Physical facilities and furniture will be designed for adult comfort and convenience.	3.72	3.50	5.00	2.03
8. More married-student and single-parent housing will be made available.	3.75	3.59	4.00	1.48
9. Institutions will provide child care for mothers returning to school.	3.06	3.11	3.00	1.58
10. Counseling, advisement, and career programs will be directed more toward older students.	2.61	2.64	3.00	1.29
11. More evening courses will be offered.	1.98	2.02	2.00	0.92
12. More weekend classes will be offered.	2.28	2.39	2.00	1.37
13. More courses will be offered in formats shorter than the traditional semester.	2.06	2.27	2.00	1.34
14. Intensive short term programs (less than 2 years) will be developed.	2.30	2.45	2.00	1.29
15. Admission and enrollment procedures will be simplified.	2.37	2.55	2.00	1.86
16. The number of students being served off-campus through educational technology will be equal to the number served on-campus.	4.05	3.87	5.00	2.03

II. In your judgment, what changes, if any, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years? (continued)	Md.	Mn.	Mo.	Intq. Rnge.
17. Extension courses will increase in popularity, and will achieve resident credit status.	3.03	3.11	3.00	1.80
18. An effective evaluation process will be developed to validate prior learning experiences of adults for granting of credit.	2.81	2.91	3.00	1.72
19. Enforcement of academic standards will be emphasized in order to maintain credibility among the general public.	2.69	2.68	3.00	1.18
20. Consortial relationships among institutions will be formed to share equipment, libraries, faculty, personnel, facilities, etc.	2.78	2.95	3.00	1.26
21. More cooperative arrangements with business/industry/government agencies will improve program development and delivery for adult learners.	2.29	2.55	2.00	1.44
22. Higher education will shift emphasis from degree-granting to service-provider for the learner.	3.65	3.64	3.00	1.64
23. Non-credit learning activities will receive the same type of government funding support as credit courses.	4.36	4.25	5.00	1.43
24. Record-keeping of non-credit learning will be as important as that of credit activities.	3.07	3.30	4.00	2.16
25. More occupational/technical courses will be offered.	2.33	2.27	2.00	1.20
26. Institutions will increase offerings in leisure activities.	2.50	2.50	2.00	1.32
27. Institutions will expand programs in liberal arts, humanities, and fine arts.	3.43	3.47	3.00	1.84
28. Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.	1.97	2.11	2.00	1.43
29. Regional and graduate institutions will provide stronger programs for adult learners than will the community and junior colleges.	4.62	4.50	5.00	1.82
30. Most institutions will make only a "cosmetic" commitment to the adult learner.	4.83	4.57	5.00	1.54

individuals in other states and from various levels of administrative positions in the field. It is possible that the literature in general may have projected the future based on other influences and perceptions of the authors. Lack of agreement in this study may not be indicative of administrator's ignorance of the literature, but may merely demonstrate the inapplicability of other findings to the current conditions in the State of Oklahoma.

Some doubt was expressed that institutions would make changes in the physical environment of the institutions to accommodate the adult students. This concern might be related to the high expectation shown by the panel for increased adult part-time enrollment, indicating anticipated low demand for increased resident student accommodations.

In addition to the two major questions this study was intended to answer, other concerns were stated for which information was sought. As expected, the study provided data relevant for consideration of these issues.

The administrators involved in the study demonstrated that they were generally alert to the adult educational trends in higher education. Their opinions concerning the likelihood of occurrence for specified events and the comments they made regarding the predictions indicated a knowledge of happenings beyond their own institutional boundaries. They forecast a continued increase in adult participation in higher education and an accelerated rate of

activity in nontraditonal delivery systems, which was also indicated in the literature. They predicted that higher education institutions would adjust to the demands of the new student population through flexibility in scheduling of classes and services, and through simplification of enrollment procedures.

It was generally encouraging to find that Oklahoma higher education administrators were alert to the enrollment trends of adult learners. It was also reassuring to know that there is an awareness of the services that are required to enhance the learning environment for these students. The discouraging discovery was that higher education is slow to make the changes that are regarded as necessary to accommodate the older student body.

Participant comments tend to show that the two-year colleges are responding more rapidly to the new clientele than are the four-year institutions. The junior and community colleges are making institutional adjustments so that part-time adult learners have access to the same classes and services that full-time students have.

The deans of students and directors of continuing education included in this study, while not directly responsible for institutional policy and planning, are influential in creating action. It is the author's belief that the chief administrative officers at the institutions represented by

the deans and directors are aware of the adult educational trends and anticipated needs. It is supposed that a survey of presidents and/or vice-presidents of the same colleges and universities would produce similar results. The question is: Why are changes not being made to meet the identified needs?

Administrators involved in this study expressed strong expectations that electronic delivery systems will have prominent roles in the educational future. They predict more off-campus opportunities for learning through televised instruction, making education more accessible to adults heretofore unreached by colleges and universities.

It is the author's belief that telecommunications will be the one area most responsible for attracting more adult students to higher education. However, institutional leaders must be alert to the auxiliary services that must be provided to strengthen this source of learning. Services such as counseling, advising, and library resources must be made available to the off-campus learner. Efforts must be made to give the students in remote classrooms the same advantages they would have as resident students.

As the study came to a close, Oklahoma higher education was beginning to face budget cuts and program reductions. This situation is not reflected in the predictions. Had the study been conducted a few months later, the forecasts might have shown more pessimism among the panelists, or there might have been more expectations of innovative planning to adjust

to the change in funding. In the opinion of the author, a later study would have produced even stronger predictions for televised instruction. This appears to be a way in which more students can be served with fewer faculty, and with savings in facility maintenance. Instruction through electronic means should in the near future prove to be a more economical approach to learning for colleges and universities than the traditional campus lecturer in the classroom. In fact, through technology the lecturer in the classroom will reach more students.

Implications

The findings from this study can be useful to higher education policy-makers in the State of Oklahoma because of the implications for change indicated by the administrators that are most closely attuned to trends and needs of the student body at each institution. In particular, based on conclusions of the current study, the following concerns should be addressed:

1. Adult enrollment in higher education will increase in both credit and noncredit areas during the next 20 years. Institutions should be making preparations for a new clientele through more flexibility in scheduling and programming, and through removal of obstacles to adult involvement in education.

2. Faculty development and improved communications

among the educational community will be of increasing importance in recruiting and retaining the adult student.

3. Nontraditional delivery systems will attract new adult students and will become of increasing importance to the survival of the institution.

Recommendations

This study has generated the following recommendations for future investigation:

1. A similar Delphi study is recommended using a panel composed of adult students rather than administrative personnel.

2. A similar study is recommended further examining and comparing perceptions of administrators at four-year vs. two-year institutions to determine differences for variance of opinions.

3. A similar study is recommended which would also involve prioritizing of changes needed in higher education to accommodate the adult learner.

4. A study is recommended to determine administrative perceptions of effectiveness of decentralization vs. centralization of the continuing education function.

5. A Delphi study is recommended using a panel of adult students who have participated in several types of learning activities, both credit and noncredit, through more than one type of delivery system and/or from more than one

type of provider, to rank effectiveness in meeting needs and expectations.

Final Summary

This study attempted to assess through the use of the Delphi technique the future trends and needed changes in adult participation in higher education. Administrators who served on the panel demonstrated an awareness of current literature in regard to the issues, and identified important concerns that must be addressed. Information derived from the study can be useful for educational planners who are concerned with providing a worthwhile and enjoyable educational experience for their students, and are also attentive to the need for successful institutional survival strategies.

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APPENDIX A

ROUND ONE

EAST CENTRAL UNIVERSITY

STANLEY P. WAGNER, *President*

ADA, OKLAHOMA 74820

July 12, 1983

TO: Joanne Lambert

FROM: Stanley P. Wagner SPW

SUBJECT: Adult Enrollment Trends

In our quest for excellence in education at East Central, we continually search for new ways to serve our changing student population. Your study of adult enrollment trends in higher education should provide information to help us as we plan for the future. The results may also be useful to other state colleges and universities.

I am in full support of your research and look forward to reviewing the outcome when it is complete.

SPW:ms

PUBLIC SERVICES PROGRAM
A Division of Continuing Education

EAST CENTRAL UNIVERSITY

Phone 405/332-8000,
ADA, OKLAHOMA 74820

July 28, 1983

A few days ago, I sent you a questionnaire and requested your help in a Delphi study of adult learners. I hope you have decided to participate in this survey, because your perception of the educational future is important to the study.

Since my first inquiry may have found you off campus or otherwise occupied, I am enclosing another questionnaire and a postage-paid envelope for your further consideration.

Please do not feel compelled to make lengthy comments. Short statements reflecting your initial reactions will be greatly appreciated.

Sincerely yours,

Joanne Lambert, Director
Public Services Program

P.S. If you've already mailed your reply - Thanks!

ROUND ONE

Instructions: Please respond to the following two items. Be brief, but adequately express your ideas. (Adults, for this study, are defined as individuals over 30 years of age.)

I. Please list enrollment trends that, in your judgment, may be expected to occur among adult learners in higher education institutions within the next 20 years.

II. In your judgment, what changes, if any, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years?

THE DELPHI TECHNIQUE

Delphi is a technique for eliciting and refining group judgments when the issue is one where exact information is not available. Questions or "event statements" are circulated to a group of knowledgeable people (panelists), who are asked to make individual predictions about the future. These responses are analyzed and resubmitted to the same panel.

The selection of the participants is critical to the success of the study. The aim is to reach general agreement through a free interchange of views, judgments, and information, provided by those with experience and understanding of the individual components of the total problem. The process is designed to minimize the problems of face-to-face committee meetings.

Three features distinguish Delphi from the usual methods of interaction: (1) anonymity - group members are not made known to each other; (2) iteration with controlled feedback - relevant information is extracted by questionnaire and presented to the group for consideration; and (3) statistical group response - group opinion produces a forecast representing the majority viewpoint.

A classical approach to a Delphi study consists of four questionnaires. Round One asks the panel to make forecasts and return the information to the director. The median and interquartile range are computed for each statement, and the information is returned to the panel for Round Two.

Round Two and subsequent rounds give respondents the opportunity to revise and re-forecast until consensus is reached. It is possible to go beyond four rounds, but it has been found that the shift in forecasts after the fourth round is usually not significant, and three rounds is frequently adequate.

PUBLIC SERVICES PROGRAM
A Division of Continuing Education

EAST CENTRAL UNIVERSITY

Phone 405/332-8000, Ext. 459
ADA, OKLAHOMA 74820

July 15, 1983

Because you are in a position to be alert to enrollment trends and student needs in higher education, I am requesting your assistance in a study of adult enrollment in Oklahoma colleges and universities.

Your participation should require only about twenty minutes at three or four intervals during the next few months. You will be a member of the panel for the study, which utilizes the Delphi Technique (a brief description is attached). You will be asked for your predictions for adult involvement in educational activities during the next 20 years. Results of each round of the survey, including final outcome data, will be made available to you. Individual responses will be strictly confidential.

I hope that it will be possible for you to participate, and that you will begin by reacting to the Round One enclosure. A return within seven days is important. I am enclosing a return envelope for your use.

Sincerely yours,

Joanne Lambert, Director
Public Services Program

Enclosures

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ADA, OKLAHOMA 74820

APPENDIX B

ROUND TWO

PUBLIC SERVICES PROGRAM
A Division of Continuing Education

EAST CENTRAL UNIVERSITY

Phone 405/332-8000, ext. 459
ADA, OKLAHOMA 74820

August 15, 1983

Dear Colleague:

I am enclosing Round Two of the Delphi study of adult learning that we began last month. Even if you did not return the first questionnaire, I hope you will consider participating in this round of the process.

Our goal is to achieve consensus of expectations for adult involvement in educational activities during the next 20 years. Your help in this project will give us a better view of the future for higher education.

The responses from Round One have been examined and summarized to form Round Two. If you do not recognize some of your statements, they may have been included as part of a broader category in order to reduce the size of the questionnaire. Instructions for completion are given at the beginning of the form.

It will also be helpful to have some additional data about you and your institution. This will give us a profile of our sources of information for the study. All replies will be strictly confidential!

Please use the enclosed postage-paid envelope for mailing your response. A return by August 26 will be appreciated.

Sincerely yours,

Joanne Lambert, Director
Public Services Program

JL/bv

Instructions: The following statements indicate possible enrollment trends of adult participation in higher education during the next 20 years, as identified by individuals responding to the Round One questionnaire. Please place a check (✓) in the box that most nearly represents your expectation regarding the stated event. You may also add others not included in the list. (Be sure to check the appropriate box for any added statement.)

(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

I. Please list enrollment trends that, in your judgment, may be expected to occur among adult learners in higher education institutions within the next 20 years. (Adults, for this study, are defined as individuals over 30 years of age.)	WHAT IS THE LIKELIHOOD THAT THIS EVENT WILL OCCUR DURING THE NEXT 20 YEARS?						
	certain (1)	almost certain (2)	probable (3)	uncertain (4)	not probable (5)	practically impossible (6)	impossible (7)
1. Adult enrollment will increase in vocational/technical areas.							
2. Adult enrollment in basic educational skills will increase.							
3. Enrollment of adult students will decrease.							
4. Part-time adult enrollment will increase.							
5. Full-time adult enrollment will increase.							
6. Adult enrollment will increase through the 1990s, then begin a slow decline.							
7. Enrollment will increase in short courses (less than a full semester).							
8. Adults will seek more credentials (certificates or advanced degrees).							
9. Adults will not be interested in degree or certificate programs, but in learning for personal development.							
10. Adult participation in education as a leisure activity will increase.							
11. Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.)							
12. Adult enrollment trends will follow entry, exit, re-entry concept.							

Instructions: The following statements indicate possible enrollment trends of adult participation in higher education during the next 20 years, as identified by individuals responding to the Round One questionnaire. Please place a check (√) in the box that most nearly represents your expectation regarding the stated event. You may also add others not included in the list. (Be sure to check the appropriate box for any added statement.)

(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

	WHAT IS THE LIKELIHOOD THAT THIS EVENT WILL OCCUR DURING THE NEXT 20 YEARS?						
I. Please list enrollment trends that, in your judgment, may be expected to occur among adult learners in higher education institutions within the next 20 years. (Adults, for this study, are defined as individuals over 30 years of age.)	certain (1)	almost certain (2)	probable (3)	uncertain (4)	not probable (5)	practically impossible (6)	impossible (7)
13. Participation in learning activities through private corporations and other nontraditional institutions will continue as educational institutions fail to meet the needs of adults.							
14. Increase in mandated professional education will create a greater participation in adult learning activities.							
15. The associate degree will replace the high school diploma as the lowest desired level of education.							

Instructions: The following statements indicate possible changes that may occur in higher education institutions within the next 20 years, as identified by individuals responding to the Round One questionnaire. Please place a check (✓) in the box that most nearly represents your expectation regarding the stated change. You may also add others not included in the list. (Be sure to check the appropriate box for any added statement.)

(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

II. Please list changes that, in your judgment, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years. (Adults, for this study, are defined as individuals over 30 years of age.)	WHAT IS THE LIKELIHOOD THAT THIS CHANGE WILL OCCUR DURING THE NEXT 20 YEARS?						
	certain (1)	almost certain (2)	probable (3)	uncertain (4)	not probable (5)	practically impossible (6)	impossible (7)
1. Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.							
2. Institutions will develop better communications with the community to determine needs and interests of adults.							
3. Funding patterns will be changed to make financial aid available to the part-time and/or non-credit student.							
4. More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.							
5. Faculty development will become important as professors learn new techniques of teaching and working with adult students.							
6. Relationships between students and faculty will become more casual, less formal.							
7. Physical facilities and furniture will be designed for adult comfort and convenience.							
8. More married-student and single-parent housing will be made available.							
9. Institutions will provide child care for mothers returning to school.							
10. Counseling, advisement, and career programs will be directed more toward older students.							
11. More evening courses will be offered.							
12. More weekend classes will be offered.							

Instructions: The following statements indicate possible changes that may occur in higher education institutions within the next 20 years, as identified by individuals responding to the Round One questionnaire. Please place a check (✓) in the box that most nearly represents your expectation regarding the stated change. You may also add others not included in the list. (Be sure to check the appropriate box for any added statement.)

(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

II. Please list changes that, in your judgment, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years. (Adults, for this study, are defined as individuals over 30 years of age.)	WHAT IS THE LIKELIHOOD THAT THIS CHANGE WILL OCCUR DURING THE NEXT 20 YEARS?						
	certain (1)	almost certain (2)	probable (3)	uncertain (4)	not probable (5)	practically impossible (6)	impossible (7)
13. More courses will be offered in formats shorter than the traditional semester.							
14. Intensive short term programs (less than 2 years) will be developed.							
15. Admission and enrollment procedures will be simplified.							
16. The number of students being served off-campus through educational technology will be equal to the number served on-campus.							
17. Extension courses will increase in popularity, and will achieve resident credit status.							
18. An effective evaluation process will be developed to validate prior learning experiences of adults for granting of credit.							
19. Enforcement of academic standards will be emphasized in order to maintain credibility among the general public.							
20. Consortial relationships among institutions will be formed to share equipment, libraries, faculty, personnel, facilities, etc.							
21. More cooperative arrangements with business/industry/government agencies will improve program development and delivery for adult learners.							
22. Higher education will shift emphasis from degree-granting to service-provider for the learner.							
23. Non-credit learning activities will receive the same type of government funding support as credit courses.							

Instructions: The following statements indicate possible changes that may occur in higher education institutions within the next 20 years, as identified by individuals responding to the Round One questionnaire. Please place a check (✓) in the box that most nearly represents your expectation regarding the stated change. You may also add others not included in the list. (Be sure to check the appropriate box for any added statement.)

(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

II. Please list changes that, in your judgment, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years. (Adults, for this study, are defined as individuals over 30 years of age.)	WHAT IS THE LIKELIHOOD THAT THIS CHANGE WILL OCCUR DURING THE NEXT 20 YEARS?						
	certain (1)	almost certain (2)	probable (3)	uncertain (4)	not probable (5)	practically impossible (6)	impossible (7)
24. Record-keeping of non-credit learning will be as important as that of credit activities.							
25. More occupational/technical courses will be offered.							
26. Institutions will increase offerings in leisure activities.							
27. Institutions will expand programs in liberal arts, humanities, and fine arts.							
28. Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.							
29. Regional and graduate institutions will provide stronger programs for adult learners than will the community and junior colleges.							
30. Most institutions will make only a "cosmetic" commitment to the adult learner.							

PUBLIC SERVICES PROGRAM
A Division of Continuing Education

EAST CENTRAL UNIVERSITY

Phone 405/332-8000, ext. 459
ADA, OKLAHOMA 74820

August 26, 1983

Dear Colleague:

Response to our second round Delphi questionnaire concerning adult trends in higher education has been very good. However, scheduled as it was between summer and fall semesters, this round may have arrived at an inconvenient time for your attention.

I am enclosing another copy of the questionnaire. If you have not already submitted yours, I hope you will complete it and return it in the enclosed postage-paid envelope. Your participation is important in order to make this a representative study of all of higher education.

Sincerely yours,

Joanne Lambert, Director
Public Services Program

jl

Enclosures

P. S. If you have already mailed your reply, please accept my thanks, and disregard this request.

APPENDIX C

ROUND THREE

PUBLIC SERVICES PROGRAM
A Division of Continuing Education

EAST CENTRAL UNIVERSITY

Phone 405/332-8000,
ADA, OKLAHOMA 74820

September 12, 1983

Dear Colleague:

Thanks so much for your help in the Delphi study! We are approaching the end of the project, and you are providing valuable information about the future of adult enrollment in higher education.

I am enclosing Round Three, containing data compiled from the Round Two responses. A high degree of consensus is appearing in many of the statements, as indicated by a small interval between the first and third quartiles (Q_1-Q_3). Please review the statements and the group responses, then make any changes and comments you choose.

Please note that you are to mark ONLY the items for which your choice is not within the interquartile range. Even if you make no changes, please return the questionnaire in the postage-paid envelope provided. An unmarked return will signify agreement with the group consensus.

Round Four will reflect any changes that produce a redistribution of the range of responses, and will contain all comments made regarding particular statements. If you will return the Round Three information by September 22 we will be ahead of schedule, and final results can be mailed to you sooner than originally planned.

Thanks again for your continuing support and cooperation.

Sincerely yours,

Joanne Lambert, Director
Public Services Program

jl

Enclosures

ROUND THREE

Instructions: The following statements represent possible enrollment trends of adult participation in higher education during the next 20 years, with quartiles indicated based on results of the Round Two questionnaire.

Please respond ONLY to statements for which your expectation falls outside the Q_1-Q_3 range, by circling the number that corresponds to your prediction. Also please use the space provided to comment on the reason for your position.

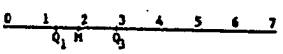
(The interval Q_1-Q_3 contains the middle 50% of the responses for a particular statement. The median (M) is the mid-point of all responses for that item, with 50% of the responses above it and 50% below it.)

---

(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

---

1. Adult enrollment will increase in vocational/technical areas.



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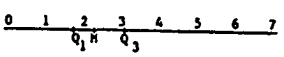
2. Adult enrollment in basic educational skills will increase.



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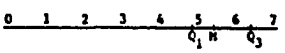
3. Enrollment of adult students will decrease.



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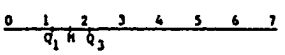
4. Part-time adult enrollment will increase.



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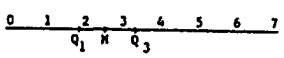
5. Full-time adult enrollment will increase.



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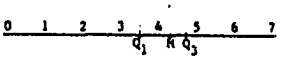
6. Adult enrollment will increase through the 1990s, then begin a slow decline.



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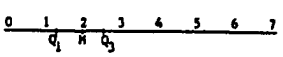
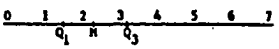
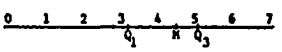
7. Enrollment will increase in short courses (less than a full semester).



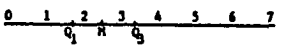
8. Adults will seek more credentials (certificates or advanced degrees).



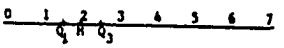
*9. Adults will not be interested in degree or certificate programs, but in learning for personal development.



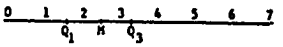
10. Adult participation in education as a leisure activity will increase.



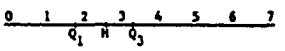
11. Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.)



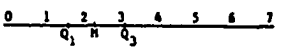
12. Adult enrollment trends will follow entry, exit, re-entry concept. (Enrollment will not be continuous.)



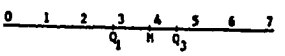
13. Participation in learning activities through private corporations and other nontraditional institutions will continue as educational institutions fail to meet the needs of adults.



14. Increase in mandated professional education will create a greater participation in adult learning activities.



15. The associate degree will replace the high school diploma as the lowest desired level of education.



*Response indicated some ambiguity in regard to this statement. Please comment.

ROUND THREE

Instructions: The following statements represent possible changes that may occur in higher education institutions within the next 20 years, with quartiles indicated based on results of the Round Two questionnaire.

Please respond ONLY to statements for which your expectation falls outside the Q_1-Q_3 range, by circling the number that corresponds to your prediction. Also please use the space provided to comment on the reason for your position.

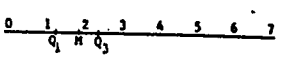
(The interval Q_1-Q_3 contains the middle 50% of the responses for a particular statement. The median (M) is the mid-point of all responses for that item, with 50% of the responses above it and 50% below it.)

---

(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

---

1. Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.



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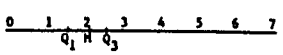
2. Institutions will develop better communications with the community to determine needs and interests of adults.



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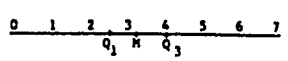
3. Funding patterns will be changed to make financial aid available to the part-time and/or non-credit student.



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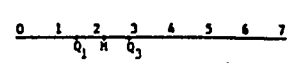
4. More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.



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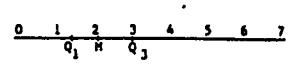
5. Faculty development will become important as professors learn new techniques of teaching and working with adult students.



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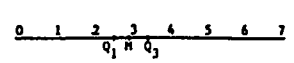
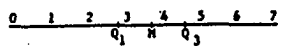
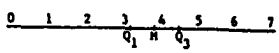
6. Relationships between students and faculty will become more casual, less formal.



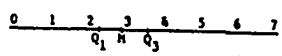
7. Physical facilities and furniture will be designed for adult comfort and convenience.



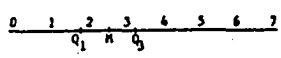
8. More married-student and single-parent housing will be made available.



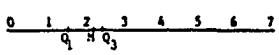
9. Institutions will provide child care for mothers returning to school.



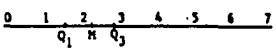
10. Counseling, advisement, and career programs will be directed more toward older students.



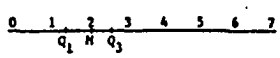
11. More evening courses will be offered.



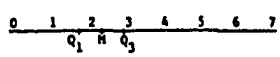
12. More weekend classes will be offered.



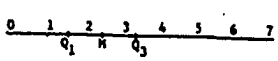
13. More courses will be offered in formats shorter than the traditional semester.



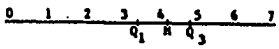
14. Intensive short term programs (less than 2 years) will be developed.



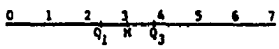
15. Admission and enrollment procedures will be simplified.



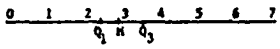
*16. The number of students being served off-campus through educational technology will be equal to the number served on-campus.



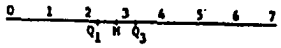
17. Extension courses will increase in popularity, and will achieve resident credit status.



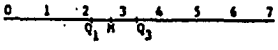
18. An effective evaluation process will be developed to validate prior learning experiences of adults for granting of credit.



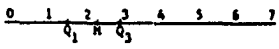
19. Enforcement of academic standards will be emphasized in order to maintain credibility among the general public.



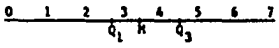
20. Consortial relationships among institutions will be formed to share equipment, libraries, faculty, personnel, facilities, etc.



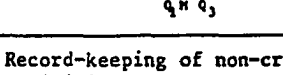
21. More cooperative arrangements with business/industry/government agencies will improve program development and delivery for adult learners.



22. Higher education will shift emphasis from degree-granting to service-provider for the learner.

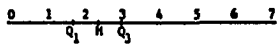


23. Non-credit learning activities will receive the same type of government funding support as credit courses.

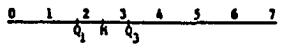


24. Record-keeping of non-credit learning will be as important as that of credit activities.

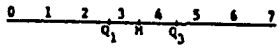
25. More occupational/technical courses will be offered.



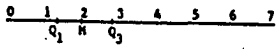
26. Institutions will increase offerings in leisure activities.



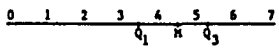
27. Institutions will expand programs in liberal arts, humanities, and fine arts.



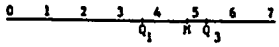
28. Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.



29. Regional and graduate institutions will provide stronger programs for adult learners than will the community and junior colleges.



30. Most institutions will make only a "cosmetic" commitment to the adult learner.



*Response indicated some ambiguity in regard to this statement. Please comment.

PUBLIC SERVICES PROGRAM
A Division of Continuing Education

EAST CENTRAL UNIVERSITY

Phone 405/332-8000, ext. 459
ADA, OKLAHOMA 74820

September 23, 1983

Dear Colleague:

If you have not yet returned your questionnaire for Round Four of the Delphi study, it may be that you are in agreement with group consensus and have no changes to make. However, in the event that you did not receive your copy a couple of weeks ago, I am enclosing another for your consideration.

If you wish to respond by making any changes in the predictions you made in Round Three, or if you would like to comment on any of the statements, please use the enclosed postage-paid envelope for this purpose. Any questionnaires not received by October 8 will be recorded as being in agreement with group consensus.

Thanks again for your assistance in this project.

Cordially,

Joanne Lambert

APPENDIX D

ROUND FOUR

PUBLIC SERVICES PROGRAM
A Division of Continuing Education

EAST CENTRAL UNIVERSITY

Phone 405/332-8000,
ADA, OKLAHOMA 74820

October 7, 1983

Dear Colleague:

Thanks again for your prompt attention to the Delphi questionnaire!

I am enclosing Round Four, which reflects changes and comments expressed in Round Three. Quartile ranges and medians were calculated using the new data, and have been listed for each item.

If, after reviewing the comments made by your colleagues, you wish to change your prediction for any of the statements, please do so by circling the number that represents your response. You may use the space provided to make additional comments. You need not mark any items for which your expectation remains unchanged, but you are encouraged to comment on any remarks made by your colleagues, whether in support or disagreement.

Please return your questionnaire before October 20, using the enclosed postage-paid envelope. If you have no changes or comments to make, it will not be necessary for you to return the questionnaire, and your response will be recorded as being in agreement with your Round Three submission.

This will probably be the last round of questioning, and the final report should be mailed to you within a few weeks.

Cordially,

Joanne Lambert

Instructions: The following statements represent possible enrollment trends of adult participation in higher education during the next 20 years. The quartiles indicated (Q_1-Q_3) and medians (M) are based on responses from Rounds Two and Three of the Delphi survey. "x" represents individual responses of participants for which their expectations were outside the interquartile range.

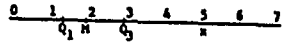
Please respond ONLY to items for which you wish to change the prediction you made in Round Three. Also please use the space provided for any comments you choose to make, or to respond to comments made by other participants.

---

(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

---

1. Adult enrollment will increase in vocational/technical areas.



Comments: That area will be saturated by 2004.

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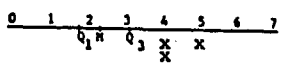
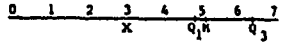
2. Adult enrollment in basic educational skills will increase.



Comments: Young adult population cohort will decrease in size. I believe enrollment in voc/tech, direct production-related skills will increase, but not basic skills.

---

3. Enrollment of adult students will decrease.



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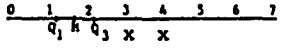
4. Part-time adult enrollment will increase.



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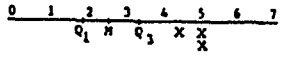
5. Full-time adult enrollment will increase.



Comments: See Item 2 comments.

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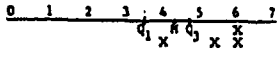
6. Adult enrollment will increase through the 1990s, then begin a slow decline.



Comments: The age of the general population will continue to increase as the baby boom passes through the respective age brackets.

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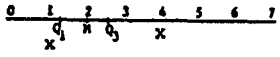
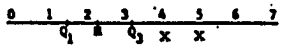
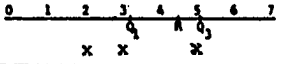
7. Enrollment will increase in short courses (less than a full semester).



8. Adults will seek more credentials (certificates or advanced degrees).

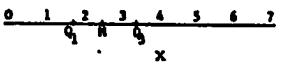


*9. Adults will not be interested in degree or certificate programs, but in learning for personal development.



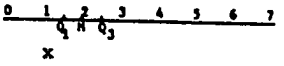
Comments: See attached.

10. Adult participation in education as a leisure activity will increase.

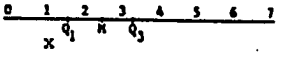


Comments: This question only asks if the learners will seek educational experiences outside. It does not ask to what extent. Some learners always seek some kind of experiences outside the traditional.

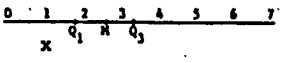
11. Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.)



12. Adult enrollment trends will follow entry, exit, re-entry concept. (Enrollment will not be continuous.)

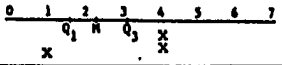


13. Participation in learning activities through private corporations and other nontraditional institutions will continue as educational institutions fail to meet the needs of adults.



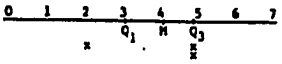
Comments: Educational institutions will only respond to the "real world" if state aid is totally removed.

14. Increase in mandated professional education will create a greater participation in adult learning activities.



Comments: Only if higher education does a better job of responding to needs of professions other than education.

15. The associate degree will replace the high school diploma as the lowest desired level of education.



Comments: This is wishful thinking.

*Response indicated some ambiguity in regard to this statement. Please comment.

Item 9, Enrollment Trends
Comments:

It depends on which segment of adults being polled. Some groups are primarily interested in personal development.

More people with degrees will look at areas outside theirs for personal gain.

The statement seems clear. I believe that adult students will continue to pursue programs with terminal points and paper (degrees or certificates of completion).

This question does not really ask if adults will be more interested in personal development than in degree or certificate programs, but it implies it.

This indicates traditional degree programs will not be as attractive as specific courses, such as accounting, for individual developmental use.

Example: Degreed people will take courses in computer science to continue their education.

Example: Woodfinishing courses for adults who plan to refinish furniture.

I think there will be continued interest in both.

Adults will be interested in degrees or certificates when used as a credential for increased employability potential.

I agree with the "uncertain" response. I don't believe that humanity will make any broad-based shift toward "self-actualization" - a hope often implied in statements such as this.

Edited statement response - Almost certain - Adults will be interested in learning for personal development. The two statements need not be mutually exclusive, but are as stated.

This will depend in large part on the value of credentials as seen by employers or agencies to whom they might be submitted for validation of an individual's interest or abilities. If the society comes to value the credential, the adult student will be inclined to make practical use of the fact, though he would care little about the credential for its own sake.

Adults will be interested in personal and professional skills, upgrading and motivated by this, not the attainment of a certificate or degree.

Four-year institutions, mainly, would like to believe this statement. However, as an administrator in 4-year and 2-year institutions and a consultant/evaluator for NCA for 25 years, this statement is "hogwash."

The major thrust in the future will be toward higher educational degrees or certification in a particular area.

Instructions: The following statements represent possible changes that may occur in higher education institutions within the next 20 years. The quartiles indicated (Q_1-Q_3) and medians (M) are based on responses from Rounds Two and Three of the Delphi survey. "x" represents individual responses of participants for which their expectations were outside the interquartile range.

Please respond ONLY to items for which you wish to change the prediction you made in Round Three. Also please use the space provided for any comments you choose to make, or to respond to comments made by other participants.

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(1) certain
(2) almost certain
(3) probable
(4) uncertain
(5) not probable
(6) practically impossible
(7) impossible

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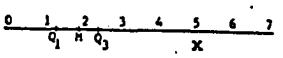
1. Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.



Comments: Some will. Many will not.

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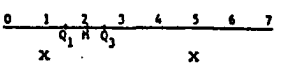
2. Institutions will develop better communications with the community to determine needs and interests of adults.



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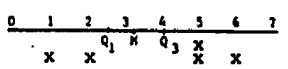
3. Funding patterns will be changed to make financial aid available to the part-time and/or non-credit student.



Comments: Essential.
Already beginning to occur for part-time students.

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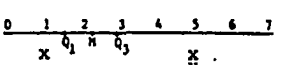
4. More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.



Comments: In Oklahoma, funding will make this less probable. Full-time faculty will be required to expand.

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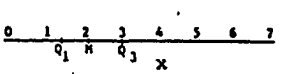
5. Faculty development will become important as professors learn new techniques of teaching and working with adult students.



Comments: I read this question to mean that faculty development will become more important, although this is not actually stated. It is already important, but not stressed.

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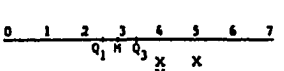
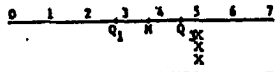
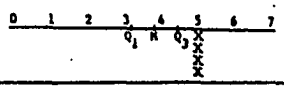
6. Relationships between students and faculty will become more casual, less formal.



7. Physical facilities and furniture will be designed for adult comfort and convenience.

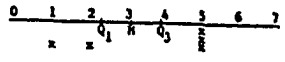


8. More married-student and single-parent housing will be made available.



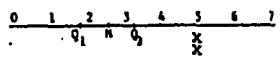
Comments: State Regents will not permit it.
The number of single parents will require this.

9. Institutions will provide child care for mothers returning to school.



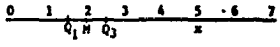
Comments: And fathers!
What about Dad, who also returns to school?
Do you mean more institutions will provide child care?
Some institutions are already providing care.
This will be a must if adult enrollments (young adults) increase.
4-year insitutions will be reluctant to respond with this service--much lost enrollment.

10. Counseling, advisement, and career programs will be directed more toward older students.

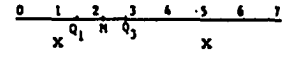


Comments: Hopefully not! Health care is directed toward the old because they need it more than the young. I hope this doesn't become the case with above-mentioned services.

11. More evening courses will be offered.

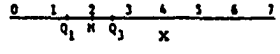


12. More weekend classes will be offered.

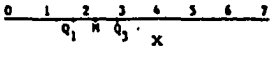


Comments: More - but never as significant a number as some expect.

13. More courses will be offered in formats shorter than the traditional semester.

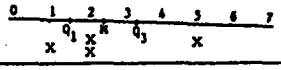


14. Intensive short term programs (less than 2 years) will be developed.



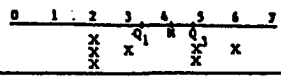
Comments: More?

15. Admission and enrollment procedures will be simplified.



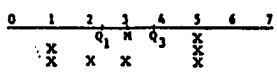
Comments: As more adults realize their power, they will not put up with "Mickey Mouse" enrollment requirements. Institutions of higher education are Services Industries - whether they believe it or not.

*16. The number of students being served off-campus through educational technology will be equal to the number served on-campus.



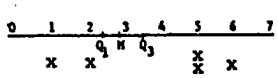
Comments: See attached.

17. Extension courses will increase in popularity, and will achieve resident credit status.



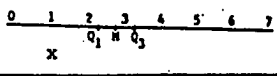
Comments: If not - fewer takers.
But majority of offerings will be on a central campus.
Extension courses will increase in popularity, but will not achieve resident credit status.

18. An effective evaluation process will be developed to validate prior learning experiences of adults for granting of credit.

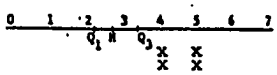


Comments: Some institutions will continue to grant credit for previous learning/work experience and other institutions will join the crowd. Effective is the key word. I don't believe an effective evaluation process will be developed.
Perhaps an increased attempt will be made. I don't believe that it will be effective.
I understood the question as stating "more" effective evaluation.
Some very sophisticated learning goes on outside the classroom - must be noted and credited.

19. Enforcement of academic standards will be emphasized in order to maintain credibility among the general public.

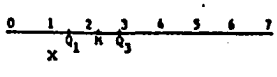


20. Consortial relationships among institutions will be formed to share equipment, libraries, faculty, personnel, facilities, etc.



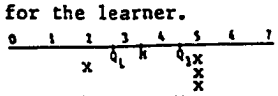
Comments: Don't hold your breath! Unless mandated by Regents and/or Legislators it won't happen - and even then, slowly.
This will be accomplished on a very limited scale. There is nothing in the history of higher education that would indicate a move to extensive/significant consortial relationships.

21. More cooperative arrangements with business/industry/government agencies will improve program development and delivery for adult learners.



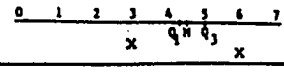
Comments: The "users" (employers) of the products of higher education must be heard as to their specific needs.

22. Higher education will shift emphasis from degree-granting to service-provider for the learner.



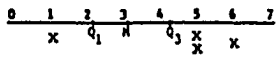
Comments: The emphasis will not shift, though the institution's role as "service-profider" will increase.
Degree granting will be most important because employers want employees to have a degree.

23. Non-credit learning activities will receive the same type of government funding support as credit courses.



Comments: Probable - as corporations and others move aggressively into fields once the province of higher education.

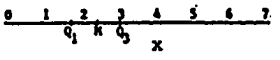
24. Record-keeping of non-credit learning will be as important as that of credit activities.



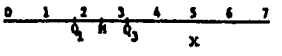
Comments: We will continue to be credit/degree oriented.
Get serious! Credit is the only thing that makes higher education different from proprietary groups.

Round 4
Changes
page 4

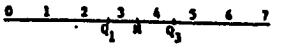
25. More occupational/technical courses will be offered.



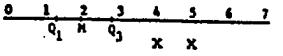
26. Institutions will increase offerings in leisure activities.



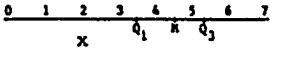
27. Institutions will expand programs in liberal arts, humanities, and fine arts.



28. Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.

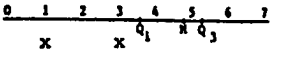


29. Regional and graduate institutions will provide stronger programs for adult learners than will the community and junior colleges.



Comments: "Stronger" is ambiguous. Community and junior colleges will likely provide more varied programs of greater immediate pragmatic value.
Regional and graduate institutions will require more and deliver more in the sophistication of traditional learning.

30. Most institutions will make only a "cosmetic" commitment to the adult learner.



Comments: "Commitment" is a strong term. Most institutions will do something to "cash in" on the adult market, but will fall far short of "commitment."

*Response indicated some ambiguity in regard to this statement. Please comment.

GENERAL COMMENTS

I have not indicated a number of disagreements. However, in general, I think the responses are extremely optimistic (i.e., what we as educators would hope to see but not what we expect will happen). Also, what happens will tend to be institutionally specific and largely determined by . . .

Item 16, Changes
Comments:

Off-campus students through OETA television, talk-back TV, etc., will equal on-campus students.

Use of satellite telecommunications and accompanying two-way radio contact and increasing costs of resident instruction will support this trend.

Possibly could be much greater.

The statement seems clear. I don't believe that we will ever exceed a 75/25 (3:1) on-campus/off-campus technology ratio.

The main campus of most universities will always maintain the highest enrollment. However, the numbers taking advantage of the off-campus sites will increase significantly also.

Computer lines allow participation at home or on the job rather than rush to campus.

If HETA develops, then this number of off-campus students will increase. However, the OSRHE may classify HETA Talk-Back and the technically delivered courses as "on-campus."

Greatly increased numbers (but not equal) will be served off-campus by "traditional" institutions.

I understood "educational technology" to mean video-tapes, talk-back TV, educational TV, etc.

The responses to Item 16 are a partial indication of the traditional mind-set of the respondents (and, perhaps, an indication of the degree of "commitment" to be expected). Current, and developing technology(ies) are not threats to campus programs nor alternatives. Institutions which will develop creative-coupling - off-campus, on-campus programs featuring combination delivery systems will enhance the learning experience and improve quality.

Small example: TV and/or computer-assisted modules coupled with on-campus discussion sessions and critiques can result in subject treatment in greater depth and direction.

Problem: The tired and the firmly traditional will not accept the challenge to develop the required curriculum - but those who will will fluorish and be renewed in their profession.

APPENDIX E

ROUND ONE RESPONSES

ROUND ONE RESPONSES TO QUESTION I

I. Please list enrollment trends that, in your judgment, may be expected to occur among adult learners in higher education institutions within the next 20 years.

° Many adult learners will seek educational experiences outside the traditional academic framework. Learning options will include nontraditonal degree programs, instructional television, computer assisted instruction.

° Participation in learning activities through private corporations, noneducational institutions, will continue to grow as educational institutions fail to meet needs of adults.

° Return to school for updating present career.

° Continuation of entry, exit, reentry concept which is quite common among adult learners who for various reasons have breaks in enrollment.

° Noncredit classes will tend to become more like traditional college classes as more professional continuing educators are replaced by "academicians" who have been trained in college of education.

° The associate degree will replace the high school diploma as the lowest desired education.

° Increased enrollment in health professions, especially care for elderly.

° Increase in mandated professional education.

° Adults will continue to seek enrollment opportunities that do not interfere with their vocation while they prepare to upgrade within their vocation or prepare for a different vocation.

° Businesses that want to portray a "young image" so over-30 will return to school.

° Fewer women returning to campus as we approach year 2000.

° Greater diversity of backgrounds and interest.

° Return to emphasis on "human resource development."

° Total family enrollment in education.

° Economy will level off.

° More adult learning will occur in courses that can be completed in the home or work place.

° Increased enrollment for social needs fulfillment.

° Enrichment of leisure time through hobby skills development.

° More involvement in recreational courses.

° More enrollment for pleasure.

° Less interest in traditional social, extracurricular activity, noncompetitive activity.

° Adults will continue to show interest in a variety of courses other than within their vocation if those courses are perceived to be meaningful.

° Self-fulfillment: courses in popular culture, humanities, economics, civil affairs, popular law and medicine.

° More leisure type courses for prevention of burn-out or rust-out problems.

° Many older citizens (over 60) will enroll in learning activities that they always wanted to know about.

° Increase in enrollment in personal finance courses.

° Continuing education as a "leisure time" activity will increase in popularity.

° Continuing growth in graduate level study.

° Many adult learners will not be interested in degree or certificate programs. Adults will enroll in courses to increase their vocational/technical competence and for personal development.

° Students will specialize without great concern for degrees.

- Adults will seek more credentials and/or new skills for career changes as our economy becomes increasingly science-oriented and traditional job preparations become obsolete.
- Current employee in marketplace will return to school to secure an advanced degree.
- Enrollment increase for career change.
- Increased enrollment in business programs.
- Most enrollments will be job related: to keep up with current trends in work area or to retrain for desired position.
- Employment oriented courses will increase.
- Increased enrollment in courses within the adult's field of work.
- Increase in professional areas.
- Returning to school for rather specialized coursework (as opposed to getting a degree) designed to support job entry or career change.
- Increased enrollment in courses or disciplines the adult learner is less familiar with . . . high technology and those necessary for career changes.
- Retraining for new careers, particularly service careers and new technology.
- More degreed people will return for retraining in new fields.
- Increased demand for work- and health-related continuing education courses.
- Shift from leisure education toward coping skills for a rapidly changing society (computers, information resources, personal health).
- Adults will be making 3 or 4 career changes in their lifetime and continuing education will be necessary.
- Increased enrollment for career change.
- Increase in retraining for new careers.
- There will be a leveling off of the increase in returning adults. The numbers will either stabilize or the increases will be very slight.

° If the economy swings back to full employment, adult learners will taper off.

° No increase in adult enrollment.

° Adult enrollment will decline.

° Increase, steady through 1990, slight increase in 1990s.

° Enrollment will be affected by unemployment, cost of living, financial aid policies, racial/ethnic mix, retention/attrition rates, state financial aid policies, mix of vocational/academic demand.

° Trends will be dependent on geographical factors (more noticeable in urban and metropolitan institutions).

° Increased enrollment trends will level during 1990s as number of individuals in lower 30s (particularly those without college education) begins to decline.

° Continued interest in evening, weekend, and short course formats of scheduling.

° Smaller but increasing number from 50s and up, especially in short courses, special summer interest sessions, brief topical seminars.

° More short-term programs.

° Increased enrollment in short courses.

° Training to combat unemployment will always be in high demand.

° Training in the Basic Skills will be the most prevalent topics followed closely by training in the high technology areas.

° Larger number of adults going to school to improve their skills in order to get a better job or to progress at present job.

° Updating skills will become more important as we become even more technical.

° Desire for opportunities designed to remediate achievement weaknesses, or to reinforce previously acquired, but weakened, learning.

° Increase in basic education, particularly reading skills.

° Increased enrollment in high technology courses.

° Greater enrollment in vocational-technical training.

° Increased enrollment in technical and science-related programs.

° More emphasis on occupational/technical training.

° More retraining for technological changes.

° Computer science and data processing service courses will be the leading adult learner courses.

° Increased enrollment due to desire for jobs during "retirement period" in order to supplement incomes.

° Young military retirees will return to higher education to pursue civilian careers.

° Expansion of Elderhostel programs and/or reduced enrollment plans for the retired adult.

° Expansion of courses which improve quality of living for the older adult (exercise, nutrition, investment and money management, arts and crafts type of courses to improve leisure time activities).

° Increase in "retired" adult learners.

° Increase in postsecondary (vocational/technical) and higher education.

° Majority of students will be 40+.

° Median age of college student by year 2000 will be 28 or higher.

° 30 to 50 percent increase.

° Over 30 will constitute 65 percent of enrollment in post-secondary and higher education by 2000.

° Adult learners may constitute over 30 percent of the total head count enrollment in institutions of higher education in the next 20 years.

° Full time adult enrollment will increase but not so rapidly as part-time enrollment.

° More full-time enrollment of adults.

° Hispanic enrollment will increase greatly.

° International students in this age group will increase.

° Greater representation of minority students.

° Fewer credit hours per student.

° Increased part-time enrollment.

° Parttime enrollment will be up by 10 percent.

° Majority of students over 30 will be part-time students.

° Part-time adult enrollment will expand greatly.

° More women returning to school.

° More women than men.

° Increasing number of females and minorities.

° Increased enrollment for immediate needs.

° Percent of students over age 30 will increase.

° Adult learners will continue to be a major segment in colleges and universities.

° Average age of students will increase.

° Average age will increase.

° Heavier enrollment by over 30 population.

° Average age of student will increase.

° Increase in number of adult learners.

° Adults will increase in career preparation.

° More students (head count).

° Number will increase.

° Enrollment will increase.

Round One Responses to Question II

II. In your judgment, what changes, if any, may be expected to occur in higher education institutions as providers for adult learners within the next 20 years?

° Competition with the private sector will grow and become more acute.

° More competition not only among ourselves, but from a multitude of professional societies, corporations, proprietary organizations.

° Institutions must form more consortial relationships and be more collaborative in their efforts.

° Collaborative effort among adult educators will result in greater legislative clout.

° Coordination of training needs of industry/business/government/education.

° Stay abreast with advancing technology via a close alliance with business/industry and sharing of resources (faculty/employees, equipment and facilities).

° Private enterprise will play a greater participant role particularly in the areas of funding and provision of other resources.

° More cooperative ventures will be developed with business/industry, agencies and association in the eternal quest for effectiveness and efficiency.

° Interdisciplinary scholarship and teaching at the campus level must be encouraged.

° Coordination between higher education and industry to provide advanced technology skills, management competencies, etc.

° Institutions must share specialized equipment, computers, libraries, teachers, and personnel.

° Colleges and universities must become more efficient in ability to insure levels of competency in knowledge and acquire skills because of increased competition from private industry.

° Private industry will provide more learning opportunities for general need of society in practical arts, skills and professional areas.

° Higher education institutions will work closely with business, industry, and government to design and deliver courses quickly to meet rapidly changing needs.

° Continuing education courses will be viewed as a part of educational, rather than service, mission.

° Continuing education/community service must be elevated to same status as the academic regular programs.

° Records for noncredit students will become as important as for credit students.

° More stringent accountability measures for noncredit activities.

° More community service courses will be offered.

° Partnerships with corporate and noneducational institutions will recognize mutual goals and contributions and responsiblities each must assume to achieve them.

° Community colleges and junior colleges will be more flexible and appeal to nontraditional students.

° Stronger continuing education programs in regional and graduate colleges and universities.

° 4 year college will continue to appeal to the traditional student.

° Most institutions will make only a "cosmetic" commitment to adult learning.

° Require literacy in English and one foreign language.

° Colleges and universities will concentrate on general education: liberal arts, humanities, and fine arts.

° Provide well designed and skillfully taught liberal arts courses.

° Curricular adjustments for leisure time activities.

° More leisure type activitiy, less emphasis on competition.

° Referral health services.

° Health care.

° More physical education courses geared to the older American.

° More specialized training rather than 4-year liberal arts degrees.

° Governing boards of higher education must make commitment to needs of adult learner.

° Student clubs, social activities for older students.

° Adult learner counseling services will be refined, expanded and focused more precisely.

° Colleges and universities will be depended upon more as research institutions by business and industries.

° Research and development activities will be coordinated with corporate institutions.

° Credibility of noneducational training experiences will be acknowledged by higher education and integrated into degree programs.

° Increased commitment of human and financial resources to assure program's success.

° Student services programming in recreation and cultural areas will be adapted for a more mature clientele.

° The Continuing Education Unit (CEU) will become more widely used and accepted as the recording device than the credit hour.

° Graduate programs will grow and become more diversified.

° All professionals in higher education will be more computer literate.

° Where equipment is required, it must be current with that which is being used in industry.

° Return to core curricula.

° More emphasis on remedial training in compensatory courses.

° Student services will be coordinated with functions of noneducational organizations.

° Focus on services and programs as opposed to social activities.

° Placement geared to older students.

° Institutions must shed the veil of tradition and truly become learning resource centers.

° More long-range planning, utilizing resources outside the academic community.

° Higher education institutions will gradually shift their emphasis from degree-granting to service to the learner.

° Learn to address needs of adult over 60 years of age.

° Enforce academic standard to maintain credibility among employers.

° Become more directly accountable to the public as regards efficient/effective use of tax dollars and tuition.

° Consumer's needs will not be as important as program design.

° Reversal of trend toward "design your own major".

° Community based learning opportunities will become far more ordinary.

° Courses will need to be practical in nature with greater application to jobs.

° Inservice in college enrollment for job training in immediate area (eliminate need to move to other job site).

° Retooling for job change/enhancement.

° Train adults to use existing skills for new job programs.

° Programs geared to prepare adults for more than one area of endeavor.

° Adapt programs to career retraining for displaced adults.

° Offer more occupational/technical programs so adults will be employable after graduation.

° Programs and activities will involve family units as opposed to those traditionally single individuals.

° Easier admission and simpler enrollment procedures.

° Give adult learners more privileges by institutions.

° Colleges must become more consumer sensitive.

° Lower admission requirements.

° Offer more varied length courses within what is currently a standard semester.

° Intensive shorter term programs (less than 2 years) for both pre- and post-degree level.

° Intensive programs of shorter duration.

° More and greater variety of short courses, especially special interest topics.

° Develop and operate special curriculum related to high technology and short term programs to equip one for career change.

° More evening classes.

° More night courses must be offered.

° More evening classes.

° Acceleration, or growth in evening offerings.

° More weekend classes.

° More weekend classes.

° Administrators will be assigned direct responsibility for dealing with and recruiting adult learners.

° University counseling, advisement, and career programs will be directed more toward older/distant learners.

° Life planning.

° Career aid.

° Extensive career guidance.

° In institutions affected by trends, demand for student services will change and decrease.

° Marriage and family counseling for older students.

° Counseling for adults to assess aptitude and ability for career change.

° Child care.

° Cooperative child care.

° Day care centers will be provided for mothers returning to school.

° More married and single-parent housing.

° Provisions for more varied living-style arrangements.

° Physical facilities will be designed to accommodate business people who are accustomed to "adult" room arrangements, furniture and coffee breaks as standard fare.

° Desire more freedom from institutional regulations, especially related to living quarters, fees for activities.

° More opportunities for open admission--less emphasis on admission standards, and more emphasis on providing opportunity for study provided they can pass the coursework.

° Greater emphasis on assessing experiential learning, and more refined provisions for advanced standing credit.

° Develop and administer an effective evaluation process to validate prior learning experiences for granting of credit (written, oral, and demonstration processes).

° Enrollment procedures and services provided by college offices must be simplified.

° Less emphasis on students attending classes on main campus.

° Innovative methods of instruction: telecourses, individual paced.

° Electronic media will be more pronounced in education.

° Increased emphasis on computer literacy.

° More flexible and adaptive to high technology and alternative delivery systems in approach to education.

° More off-campus courses.

° We must gear up to serve the disadvantaged and unemployed as well as the professionals.

° Adapt delivery systems to keep up with rapidly changing technology.

° Use of public television for remedial training.

° Increase in use of telecommunications and teleconferencing for adult learner.

° Educational technology will be used to deliver course material to individuals and groups at off-campus locations.

° Person to person will still be the main way of transmitting education with electronic as assistant.

° Electronic libraries will be available.

° Extension programs will be more important. Extension stigma will be removed.

° Use of technology to provide greater volume of learning (courses for credit) opportunities in the home and shop setting.

° Use of extension centers for offering of resident credit--more professors taking the courses to the students.

° More casual, less formal contact with faculty.

° Utilization of part time instructors to teach "specialized" courses.

° More adjunct instructors to allow for flexibility in program offerings and institutional budgeting.

° More training of faculty to deal more realistically with nontraditional student.

° Faculty development will become a priority item as institutions redirect their efforts toward needs of adult learners.

° Institutions will hire more part-time faculty supposedly in an effort to be more flexible in response to student's needs.

° Teaching styles and strategies must change to meet needs of adult student.

° Adults are already more goal oriented and motivated than traditional student.

° Professors must become skilled in several knowledge delivery systems.

° Identify staff who can coordinate and plan activities for the older adult.

° Train professor to better deal with the motivation of and the reasons this age student is continuing education.

° Improve teaching techniques. Adults will not tolerate inferior instruction.

° Financial assistance to non-full-time learner.

° Funding patterns will change as the burden increases.

° Request for greater flexibility in financial aids support, less restrictive regarding number of credit hours.

° Increase funding from federal sources will be accompanied by additional regulation and control.

° Expansion of benefits in enrollment reduction for the older adult.

° Option of fee payments which support traditional activities.

° Loans and grants available to older students.

° The state must fund continuing education/community service.

° Successful institutions will find more ways to produce outside income to assist in funding.

° Colleges must conduct more surveys and make more community contacts to determine specific areas of interest and need.

° Make higher education more appealing and accessible to the adult learner.

° The 16-week semester will be just one of the options. More 2-4-6 week sessions will become part of the regular programming.

° Flexibility of scheduling will continue to be of great importance.

° New programs will have to be developed.

° Institutions trying to serve this population must schedule more flexibility.

° Institutions will become more flexible to scheduling convenient times to attend.

° Expansion of programs, designed and scheduled for the older adult.

° Diversified programs.

° Split level weeks.

° Flexible time arrangements scheduled around shift hours of factories.

° More enrollment options.

° More academic programs geared to adult learner.

° Great modification of the traditional schedule of classes.

° Course offerings will be dictated more by needs of these students than now.

° Extend operating hours to accommodate the full-time worker.

° Provide better ways to adjust programs to the needs of individual students.

° Provide extended hours - 18 to 20 hours per day.

° Be able to teach courses at the time they are needed. Sometimes the paperwork uses up the needed time.

° More flexibility in curriculum. Teach what is needed, rather than what may be found in textbooks.

° Institutions will have to arrange schedules for the adult learner rather than for the instructors.

° Colleges must utilize more flexibility in scheduling, conducting classes and awarding college credit.

° An enlightened citizenry will demand greater service through both credit and noncredit offerings.

° Institutions must become more responsive to the needs and desires of adult learners.

- Design programs and then actively recruit the over 30 adult.
- Diversified schedules, both in curriculum and time.
- Systems will be developed and given a high priority for meeting the needs of the older citizen.
- Higher education will learn how to remove programs that no longer serve their clientele.

APPENDIX F

ROUND TWO COMMENTS

Adult enrollment will increase in vocational/technical areas.

Comments: That area will be saturated by 2004.

Full-time adult enrollment will increase.
Adult enrollment in basic educational skills will increase.

Comments: Young adult population cohort will decrease in size. I believe enrollment in voc/tech, direct production-related skills will increase, but not basic skills.

Adult enrollment will increase through the 1990s, then begin a slow decline.

Comments: The age of the general population will continue to increase as the baby boom passes through the respective age brackets.

Adult learners will seek educational experiences outside the traditional academic framework (instructional television, computer assisted instruction, nontraditional degree programs, etc.).

Comments: This question only asks if the learners will seek educational experiences outside. It does not ask to what extent. Some learners always seek some kind of experiences outside the traditional.

Increase in mandated professional education will create a greater participation in adult learning activities.

Comments: Only if higher education does a better job of responding to needs of professions other than education.

Participation in learning activities through private corporations and other nontraditional institutions will continue as educational institutions fail to meet the needs of adults.

Comments: Educational institutions will only respond to the "real world" if state aid is totally removed.

The associate degree will replace the high school diploma as the lowest desired level of education.

Comments: This is wishful thinking.

Institutions will become more flexible in scheduling of courses, programs, and services at nontraditional times and places to accommodate the nontraditional student.

Comments: Some will. Many will not.

Funding patterns will be changed to make financial aid available to the part-time and/or noncredit student.

Comments: Essential.
Already beginning to occur for part-time students.

More part-time instructors and/or adjunct professors will be hired to serve increased demands for varied courses.

Comments: In Oklahoma, funding will make this less probable.
Full-time faculty will be required to expand.

Faculty development will become important as professors learn new techniques of teaching and working with adult students.

Comments: I read this question to mean that faculty development will become more important, although this is not actually stated. It is already important, but not stressed.

More married-student and single-parent housing will be made available.

Comments: State Regents will not permit it.
The number of single parents will require this.

Institutions will provide child care for mothers returning to school.

Comments: Do you mean more institutions will provide child care?
What about Dad, who also returns to school.
Too, some institutions are already providing care.
4-year institutions will be reluctant to respond with this service--much lost enrollment.
This will be a must if adult enrollment (young adults) increases.
And fathers!

Consortial relationships among institutions will be formed to share equipment, libraries, faculty, personnel, facilities, etc.

Comments: Don't hold your breath! Unless mandated by Regents and/or Legislators it won't happen--even then, slowly. This will be accomplished on a very limited scale. There is nothing in the history of higher education that would indicate a move to extensive/significant consortial relationships.

More cooperative arrangements with business/industry/government agencies will improve development and delivery for adult learners.

Comments: The "users" (employers) of the products of higher education must be heard as to their specific needs.

Higher education will shift emphasis from degree-granting to service-provider for the learner.

Comments: The emphasis will not shift, though the institution's role as "service-provider" will increase. Degree granting will be most important because employers want employees to have a degree.

Noncredit learning activities will receive the same type of government funding support as credit courses.

Comments: Probable--as corporations and others move aggressively into fields once the province of higher education.

Record-keeping of noncredit learning will be as important as that of credit activities.

Comments: We will continue to be credit/degree oriented. Get serious! Credit is the only thing that makes higher education different from proprietary groups.

Regional and graduate institutions will provide stronger programs for adult learners than will the community and junior colleges.

Comments: "Stronger" is ambiguous. Community and junior colleges will likely provide more varied programs of greater immediate pragmatic value. Regional and graduate institutions will require more and deliver more in the sophistication of traditional learning.

Counseling, advisement, and career programs will be directed more toward older students.

Comments: Hopefully not! Health care is directed toward the old because they need it more than the young. I hope this doesn't become the case with above-mentioned services.

More weekend classes will be offered.

Comments: More--but never as significant a number as some expect.

Intensive short-term programs (less than 2 years) will be developed.

Comments: More?

Admission and enrollment procedures will be simplified.

Comments: As more adults realize their power, they will not put up with "Mickey Mouse" enrollment requirements. Institutions of higher education are Services Industries--whether they believe it or not.

Extension courses will increase in popularity, and will achieve resident credit status.

Comments: If not--fewer takers.
But majority of offerings will be on a central campus. Extension courses will increase in popularity, but will not achieve resident credit status.

An effective evaluation process will be developed to validate prior learning experiences of adults for granting of credit.

Comments: Some institutions will continue to grant credit for previous learning/work experience and other institutions will join the crowd. Effective is the key word. I don't believe an effective evaluation process will be developed.
Perhaps an increased attempt will be made. I don't believe that it will be effective.
I understood the question as stating "more" effective evaluation. Some very sophisticated learning goes on outside the classroom--must be noted and credited.

The number of students being served off-campus through educational technology will be equal to the number served on campus.

Comments:
- Off-campus students through OETA television, talk-back TV, etc., will equal on-campus students.
- Use of satellite telecommunications and accompanying two-way radio contact and increasing costs of resident instruction will support this trend.
- The statement seems clear. I don't believe that we will ever exceed a 75/25 (3:1) on-campus/off-campus technology ratio.
- The main campus of most universities will always maintain the highest enrollment. However, the numbers taking advantage of the off-campus sites will increase significantly also.
- Computer lines allow participation at home or on the job rather than rush to campus.
- If HETA develops, then this number of off-campus students will increase. However, the OSRHE may classify HETA Talk-Back and the technically delivered courses as "on-campus."
- Greatly increased numbers (but not equal) will be served off-campus by "traditional" institutions.
- I understood "educational technology" to mean video-tapes, talk-back TV, educational TV, etc.
- The responses to Item 16 are a partial indication of the traditional mind-set of the respon-

dents (and, perhaps, an indication of the degree of "commitment" to be expected). Current, and developing technology(ies) are not threats to campus programs nor alternatives. Institutions which will develop creative-coupling-off-campus, on-campus programs featuring combination delivery systems will enhance the learning experience and improve quality.

- Small example: TV and/or computer-assisted modules coupled with on-campus discussion sessions and critiques can result in subject treatment in greater depth and direction.

- Problem: The tired and the firmly traditional will not accept the challenge to develop the required curriculum--but those who will, will fluorish and be renewed in their profession.

Adults will not be interested in degree or certificate programs, but in learning for personal development.

Comments:

- It depends on which segment of adults being polled. Some groups are primarily interested in personal development.

- More people with degrees will look at areas outside theirs for personal gain.

- The statement seems clear. I believe that adult students will continue to pursue programs with terminal points and paper (degrees or certificates of completion).

- This question does not really ask if adults will be more interested in personal development than in degree or certificate programs, but it implies it.

- This indicates traditional degree programs will not be as attractive as specific courses, such as accounting, for individual developmental use.

- Example: Degreed people will take courses in computer science to continue their education.

- Example: Woodfinishing courses for adults who plan to refinish furniture.

- I think there will be continued interest in both.

° Adults will be interested in degrees or certificates when used as a creditial for increased employability potential.

° I agree with the "uncertain" response. I don't believe that humanity will make any broad-based shift toward "self-actualization"--a hope often implied in statements such as this.

° Edited statement response--Almost certain--Adults will be interested in learning for personal development. The two statements need not be mutually exclusive, but are as stated.

° This will depend in large part on the value of credentials as seen by employers or agencies to whom they might be submitted for validation of an individual's interest or abilities. If the society comes to value the credential, the adult student will be inclined to make practical use of the fact, though he would care little about the credential for its own sake.

° Adults will be interested in personal and professional skills, upgrading and motivated by this, not the attainment of a certificate or degree.

° Four-year institutions, mainly, would like to believe this statement. However, as an administrator in 4-year and 2-year institutions and a consultant/evaluator for NCA for 25 years, this statement is "hogwash."

° The major thrust in the future will be toward higher educational degrees or certification in a particular area.

APPENDIX G

FINAL REPORT

PUBLIC SERVICES PROGRAM
A Division of Continuing Education

EAST CENTRAL UNIVERSITY

Phone 405/332-8000, ext. 459
ADA, OKLAHOMA 74820

November 21, 1983

Dear Colleague:

Thanks to all of you who contributed your knowledge and expertise to the Delphi study, it is finally complete!

As you observed from the statistical data provided during the previous round of questioning, consensus was reached for all statements generated in the study. There were no significant changes in the fourth and final round, but some interesting comments were made, and I wanted to share them with you. Sorry, there is no provision for responding at this stage of the study!

Thanks again for your cooperation and participation. Please call on me at any time I can be of help to you. I would be grateful for the opportunity to return the favor.

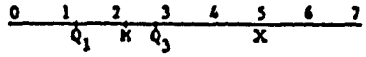
Cordially,

Joanne Lambert, Director
Public Services Program

jl

ROUND FOUR RESPONDENT COMMENTS

1. Adult enrollment will increase in vocational/technical areas.

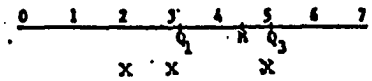


Comments: That area will be saturated by 2004.

Comments: Demographics and trends don't support the 2004 prediction.

With the explosion of technology in recent decades, it would seem reasonable to expect new technologies to appear which will require new vo/tech programs.

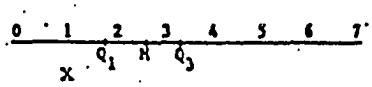
*9. Adults will not be interested in degree or certificate programs, but in learning for personal development.



Comments: See attached.

Comments: The degree or certificate is still very important.

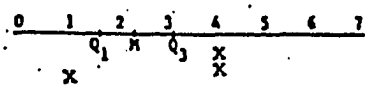
13. Participation in learning activities through private corporations and other nontraditional institutions will continue as educational institutions fail to meet the needs of adults.



Comments: Educational institutions will only respond to the "real world" if state aid is totally removed.

Comments: Many private corporations will turn to institutions of higher education if the state of Oklahoma will financially support continuing education divisions equivalent to those in some other states.

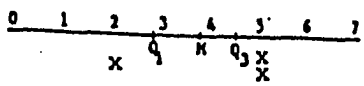
14. Increase in mandated professional education will create a greater participation in adult learning activities.



Comments: Only if higher education does a better job of responding to needs of professions other than education.

Comments: Continuing education programs must move to the front and become equal partners with academics and technical education.

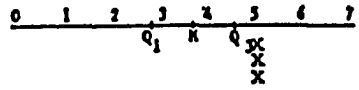
15. The associate degree will replace the high school diploma as the lowest desired level of education.



Comments: This is wishful thinking.

Comments: The minimum education level has increased throughout this century.

7. Physical facilities and furniture will be designed for adult comfort and convenience.



Comments: Transition, if any, will be painfully slow.

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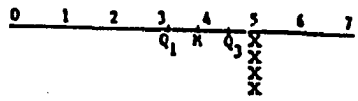
8. More married-student and single-parent housing will be made available.



Comments: State Regents will not permit it. The number of single parents will require this.

Comments: They (Regents) will change as occupancy in traditional halls decreases.

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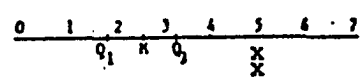
10. Counseling, advisement, and career programs will be directed more toward older students.



Comments: Hopefully not! Health care is directed toward the old because they need it more than the young. I hope this doesn't become the case with above-mentioned services.

Comments: If this means more than at present, hopefully so since the average age of the nation is moving upward, as is the average age of enrolled students in higher education.

Counseling is not a zero sum game. Needs of all groups can be met.

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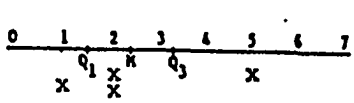
15. Admission and enrollment procedures will be simplified.



Comments: As more adults realize their power, they will not put up with "Mickey House" enrollment requirements. Institutions of higher education are Services Industries - whether they believe it or not.

Comments: Amen.

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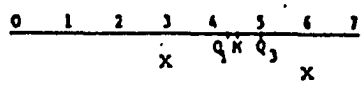
23. Non-credit learning activities will receive the same type of government funding support as credit courses.



Comments: Probable - as corporations and others move aggressively into fields once the province of higher education.

Comments: This must happen.

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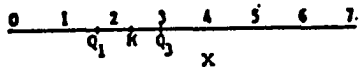
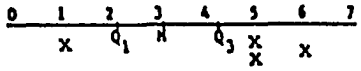
25. More occupational/technical courses will be offered.



Comments: More continuing education courses in occupational/technical areas should be offered.

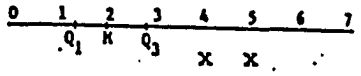
24. Record-keeping of non-credit learning will be as important as that of credit activities.



Comments: We will continue to be credit/degree oriented. Get serious! Credit is the only thing that makes higher education different from proprietary groups.

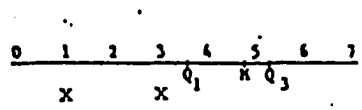
Comments: Person making this statement probably has no higher education experience outside Oklahoma. A record of CEU's on a permanent record works very well in many states.

28. Community colleges and junior colleges will be more flexible and appeal more to the nontraditional student than will the four-year and graduate institutions.



Comments: If the community/junior college follows patterns in other states then this is definitely true.

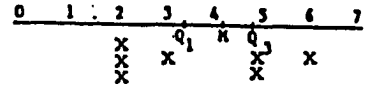
30. Most institutions will make only a "cosmetic" commitment to the adult learner.



Comments: "Commitment" is a strong t something to "cash in" on th. far short of "commitment." Most institutions will do lt market, but will fall

Comments: Many institutions are not willing to make necessary changes.

*16. The number of students being served off-campus through educational technology will be equal to the number served on-campus.



Comments: See attached.

Off-campus students through OETA television, talk-back TV, etc., will equal on-campus students. Comments: Not likely.

Use of satellite telecommunications and accompanying two-way radio contact and increasing costs of resident instruction will support this trend. Comments: Agree.

The main campus of most universities will always maintain the highest enrollment. However, the numbers taking advantage of the off-campus sites will increase significantly also. Comments: Agree.

General Comments: This looks good.

The short range effect of funding shortfall may skew things due to inability of colleges to respond to needs.

Looks good!