AN ANALYSIS OF THE ANDRAGOGICAL-PEDAGOGICAL ORIENTATION OF SELECTED FACULTY AT OKLAHOMA STATE UNIVERSITY

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in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF EDUCATION
MAY, 1982

DEDICATION

This project is dedicated to my father, one of the adult educators with the Civilian Conservation Corps, a self-directed learner, and although he will never know how much, a guiding light to my studies and my life.

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ACKNOWLEDGMENTS

As with many major projects, there are many who have contributed to completion of this one. First my committee; Dr. Lloyd Wiggins Chairman; Dr. Waynne James, Thesis Adviser; Dr. Deke Johnson, Dr John Baird; and Dr. Gene Smith. I am grateful to Dr. Bonnie Braun for her help editing, and the School of Occupational and Adult Education for their support and cooperation. To my wife, Sylvia, a special thanks for I know what she has sacrificed and postponed for this project.

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CHAPTER I

INTRODUCTION

Higher education in America is in a period of transition. Apps (1981) has refered to these changes as a "quiet revolution".

> What I'm referring to is the return of thousands of adults to college campuses, adults who may have attended a college for one or more years and then dropped out, adults who may have received a baccalaureate degree but find need for additional education, and adults who may never have attended college (p. 11).

According to the current literature, enrollment trends and census information, the student bodies of our colleges and universities are drastically changing (Bureau of the Census, 1981; Oklahoma State Regents for Higher Education, 1980; National Center for Education Statistics, 1980). Until the late 1970's the population of 18-22 year olds attending college increased at tremendous rates. This segment of the population which has traditionally composed the student body of colleges and universities is now becoming smaller and is being replaced by a new segment of the population--older adults.

This trend is projected to continue. The annual growth rate for the 15-24 year olds is projected to grow 1.3 percent with the growth for the 25-34 and 35-44 year old

groups projected to grow at an annual rate of 3.4 percent for each year during the 1980's.

Returning adults are beginning their college careers later in life and those who began but never finished are returning. The reasons for this delayed college experience are varied: youth who postponed the college experience for the military, return of larger numbers of people who did not go to college after high school, a general realization that further education is necessary, changes in careers, and attempts to keep up with the technical changes in society and jobs are but a few examples (Cross, 1981).

The new clientele for higher education will not be children or youth. They will be and, to an extent, are adults who hold jobs, have families, and contribute to the communities and professions within which they live and work.

> An assumption . . . is that colleges and universities cannot continue with business-as-usual, given the increasing numbers of these older students returning to work on undergraduate and graduate degrees (Apps, 1981, p. 11).

It is the transition from younger to older students and how the institution and instructional staff adapt to it which will mean success or failure for many institutions. Institutions of higher education will be forced to examine all facets of their instruction to identify which areas will need to be updated, changed, or deleted (Apps, 1981).

The instructional orientation of the faculty toward the adult learner will be among these facets since faculties in

higher education generally have traditonally been teacher directed in their teaching methods. Commonly used methods have been extensions of techniques developed for elementary and secondary education and are based on assumptions made about teaching children and youth.

Instructional personnel enter into instructional situations with some basic assumptions, which may reflect a student-centered, teacher-centered, or subject-centered philosophy (Apps, 1981; Swanson and Smith, 1979). It is these assumptions which will cause a large number of problems for future students and faculty.

Statement of the Problem

Because of the lack of research dealing with the student-centered and teacher-centered education model in higher education, this research was an attempt to identify the assumptions the Oklahoma State University College of Arts and Science and College of Education faculty make concerning education and learning. Faculty may bring with them, into the classroom and the student-teacher relationships, assumptions about education which they may or may not be aware. Swanson and Smith (1979) state:

> Attempts to help teachers shape their behavior in the classroom starts from encouraging them to identify the assumptions they make about education in general and about school, teachers, learning and students in particular. The teacher who is aware of the assumptions he makes then can explore the classroom behavior that is consistent with those assumptions (p. 368).

Apps (1981) adds:

> The instructor belief areas that appear to have the greatest relevance for the learning environment of returning students include (1) beliefs about humans, (2) beliefs about returning students, (3) beliefs about teaching and learning as applied to adults, (4) beliefs about knowledge, (5) beliefs about other instructors, and (6) beliefs about the purpose of the educational program for returning students (p. 69).

By understanding his/her andragogical-pedagogical orientation, the instructor should be better able to meet the challenge of the changing student body.

Purpose and Objectives of the Study

The purpose of this study was to examine the orientation of the instructional personnel in the College of Arts and Sciences and the College of Education at Oklahoma State University regarding the andragogical-pedagogical educational model developed by Knowles (1970). Specific objectives of the study were to:

1. Identify the relationship of academic disciplines, and how the various subject specialities relate to the student-centered, teacher-centered continuum.

2. Develop a profile of the orientation of the Oklahoma State University faculty considering level of instruction, academic rank, age, years of teaching experience at the university level, and the amount of service/extension work done by the person.

3. Compare the findings of this study with previous

research at the community college level and with traditionally defined adult educators.

Hypotheses

The null hypotheses for this study tested the orientation of the individual faculty member as well as the faculty's collective orientation and how this orientation was related to given professional and personal characteristics. The subscales and the overall Educational Orientation Questionnaire scores were statistically tested against the following null hypotheses.

H1: There is no significant difference among the faculties of the departments in their andragogical-pedagogical orientation toward education.

H2: There is no significant difference between graduate faculty membership and undergraduate faculties in their andragogical-pedagogical orientations toward education.

H3: There is no significant difference among the academic ranks of instructional personnel in their andragogical-pedagogical orientation toward education.

H4: There is no significant difference among the levels of service/extension work, on and off campus, the respondents perform and their andragogical-pedagogical orientation toward education.

H5: There is no significant difference among the ages of instructional personnel in their andragogical-pedagogical orientation toward education.

H6: There is no significant difference between male and female instructional personnel in their andragogical-pedagogical orientation toward education.

H7: There is no significant difference between tenured and nontenured faculty in their andragogical-pedagogical orientation toward eduation.

H8: There is no difference among the faculty, when considering highest degree earned, in their andragogical-pedagogical orientation toward education.

H9: There is no difference among the faculty, when considering FTE of teaching undergraduate or graduate courses, in their andragogical-pedagogical orientation toward education.

H10: There is no difference among the faculty, when considering years experience teaching at the university and college level, in their andragogical-pedagogical orientation toward education.

Assumptions

The following assumptions were accepted in order to conduct the study:

1. The questionnaire developed by Hadley (1975) was valid and reliable.

2. All students who enter Oklahoma State University are adults.

3. The education of adults is based on and affected by a different set of goals, objectives and functions than the education of youth and children.

Limitations of the Study

This study was limited to the faculty of Oklahoma State University in the College of Arts and Sciences and the College of Eduation who were teaching at least 25 percent full-time equivalency (FTE) during the fall term 1981-1982 academic year. The study excluded graduate teaching assistants and adjunct faculty. Academically ranked administrators were also excluded unless they were teaching at least twenty-five percent FTE.

The instrument used to obtain the data was developed by Hadley (1977) and modified. The term "teacher" in the original was changed to "instructor". It was felt the term instructor would better relate to the college-university setting. Additional information was requested for statistical classification. The data used in the statistical tests were limited to data obtained from the instruments which were returned from the initial mailing and follow-up attempts.

Definitions of Terms

The following terms were used in this study according to the accompanying definitions:

Academic Rank: For this study, Professor, Associate Professor, Assistant Professor and Instructor were the only ranks recognized. The adjectives "visiting" and "adjunct" were not used.

Adult: Individuals who are mentally and economically capable of self-direction and decision making. The Oklahoma State University student body is, generally, 17 years of age or older.

Andragogical Orientation: Hadley's (1977) original definition was used:

> The orientation of an andragogical adult educator stresses free choice of alternative goals for learning with interdependent decison and action among students and between students and educators as the basis of effective learning. The educator perceives his relationship with students as that of helper, resource, consultant and co-learner. The goal is to increase effectiveness of learning by encouraging situations which increase cooperative interaction about learners and increase their participation and direction of their learning (p. 7).

College/ Division: The seven colleges and divisions listed in the organization chart of Oklahoma State University are the following: the Division of Agriculture, the College of Arts and Sciences, the College of Business Administration, the Division of Engineering, Technology and Architecture, the Divison of Home Economics, the College of Education, and the College of Veterinary Medicine. For this study the focus will be on the College of Arts and Sciences and the College of Education.

Department: A department, for this study, is an academic unit within which the teaching function is carried out. The dean's office is included here because of the introductory level courses taught by faculty from the student personnel offices in each college.

Extension/Service Work: Work performed under the sponsorship of the Extension Division of Oklahoma State University including outreach, workshops, seminars, courses and consultant activities for credit and noncredit.

Full-time Equivalent (FTE): The total work assigned to the individual. The assignment may be from one or more of the areas of instruction, research, or extension activities. The assignments are expressed in percentages of the total work load.

Graduate Faculty: The members of the graduate faculty are made up of two groups, "full membership" and "associate membership". Selection to the graduate faculty is based on recommendations, published works and work with graduate students.

High Paradigm Disciplines: A paradigm ". . . stands for an entire constellation of beliefs, techniques and so on, shared by members of a given community" (Kuhn, 1970, p. 175), in this case the various bodies of knowledge or disciplines. High paradigm disciplines are those bodies of knowledge in which ". . . certain theories and findings have been accepted as a problem and can be used as the basis for further investigation" (Lodahl and Gordon, 1973, p.193). The theories and/or findings provide the models for further study and problem solving. Examples of high paradigm disciplines are the natural sciences and professions.

Low Paradigm Disciplines: Low paradigm is the opposite end of the high-low paradigm continuum. It includes the

social sciences because:

> . . . [the] scientist has to choose between an array of competing theories and methodologies. Members of one school will not accept the standards by which the other [school] performs and judges its research (Lodahl and Gordon, 1973, p. 193).

Undergraduate Courses: Courses listed in the Oklahoma State University catalog as 1000, 2000, 3000, and 4000 designed for the undergraduate level of instruction and for the lower level graduate instruction.

Pedagogical Orientation: Hadley's (1977) original definition was used:

> The orientation of a pedagogic adult educator emphasizes learners' acquiring knowledge and skills that the educator judges as true and effective. The personal judgement of the educator is based on traditon, accepted views and practices, or current knowledge of the physical and social universes. In the judgement of the educator these knowledges and skills tend to have values, inherent and instrumental, that are perennial and universal. The pedagogical educator therefore, sees his primary relationship to learners as that of an authority, technical expert, director of their learning, and judge of their achievement. In order to increase effectiveness of learning he stresses techniques to transmit ideas efficiently, to develop presentations of subject matter which are logically organized, to motivate learning by encouraging competitive individual achievement and to maintain control of what is learned (p. 8).

Student: A student is any person who matriculates at Oklahoma State University.

Organization of Study

Chapter I has introduced the study, presented the problem, purpose, limitations, and definition of terms to be used in this study. Chapter II includes a discussion of

related literature concerning the Pedagogical-Andragogical model. Chapter III reports the procedures utilized in this study, including the population, instrumentation, methodology, and data analysis. The findings of the study are presented in Chapter IV. Chapter V includes a summary of the study, conclusions, and recommendations for further research and practices.

CHAPTER II

REVIEW OF LITERATURE

A major change is occurring in colleges and universities. This change has been called a "quiet revolution" by Apps (1981). The problems associated with these changes will be similar but longer lasting, to problems resulting from the return of post-World War II veterans to advanced educational programs. Some of the changes older students demand include differences in the registration process and student personnel services as well as the student-faculty relationships. The older students tend to question the quality of instruction and the personal relations with faculty much more readily than the traditional students.

> Changes in these areas will not come without a struggle, without debate, power plays, and compromise. Revolutions never occur without struggle and conflict, whether they be violent revolutions or quiet, more subtle revolutions of the type I'm describing here. But the conflict can be reduced somewhat, and the time it takes to resolve the conflict shortened, if all concerned are willing to explore the problems in a thoughtful manner (Apps, 1981, p. 12).

The purpose of this chapter is to review literature related to the revolution just described. The review has been divided into four major areas: a discussion of adult learning theory, a discussion of the concepts of andragogy

and pedagogy, a discussion of the population trends for colleges and universities, and a discussion of faculty-student relations at the university and college level.

Adult Learning Theory

Beginning in the late 1920's and continuing to the 1950's, adult education publications carried articles lamenting the ineffectiveness of traditonal teaching techniques used with adults. Somewhat apologetically, teachers of adult students began developing and perfecting methods of their own (Knowles, 1980). Until the 50's and early 60's the study of adult learning situations was a neglected subject in the psychological publications concerning adults. However, the writings of Birren (1964), Bromley (1966) and Bischof (1969) have since developed the psychological aspects of adults. In the early 1960's studies by Knowles (1962), Houle (1961) and others began to build a model for teaching adults based on adult learning and needs.

Houle (1961) studied adult learning from the view of internal processes. From his interviews, he developed three types of learners: (1) goal-oriented learners; (2) activity-oriented leaners; and (3) learning-oriented learners. The types are not "pure" but the central emphasis of each can be distinguished. First, the goal-oriented learner has a specific reason for learning. These individuals usually do not start continuing their education until their mid-twenties. They usually do not take part in adult

education programs until the need for learning is pressing. The second type of learner attends for the social and active working relation with others in the learning situation. The third type of learning-oriented person learns for the sake of learning. These learners, unlike the others, have been involved in learning from their early years.

Tough (1974) followed Houle's work with his "learning projects" concept. His investigation extended the questions from what and why adults learn to how and what helps adults learn. Tough found, among other things, that adult learning is a very pervasive activity. Further he found that all adults engage in learning projects. These efforts may be self-directed or other-directed.

In 1962, Verner published work in which he labeled adult learning as a process made up of three elements: (1)organization of the participants to facilitate education; (2) management of learning tasks to facilitate education; and (3) devices which help the learning tasks.

McClusky (1970) developed a concept of adult learning based on a "Differential Psychology of the Adult Potential". McClusky's theory included five subconcepts: (1) commitment (the commitment the individual has to encounter daily); (2) time perception (tasks which one perceives as important are different at each life stage); (3) critical periods (each person encounters learning which is important and is easily grasped at specific critical times in life); (4) margin (the amount of surplus "power" one has after

demands by self and society are met); and (5) self-concept (the way adults view themselves and the learning tasks).

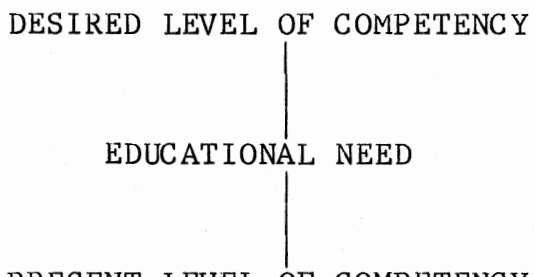
The Andragogical-Pedagogical Model

Knowles (1970, 1975, 1978, 1980), probably the best known adult learning theorist, has developed his framework under the title "ANDRAGOGY". He distingushes adult learning from child learning as the social situation in which each person learns, not necessarily the psychological process.

Knowles (1980) defines educational need as the difference between required or desired level of competence and present level of competency (Figure 1). Knowles' concepts are further built on the social roles each adult and child fills in our society, the maturation which social development requires and how larger social systems facilitate or inhibit learning and change.

The differences between adult learners and youth learners, according to Knowles (1980), lie in two areas: (1) the assumptions about the characteristics of adults and youth; and (2) how these assumptions effect the process of teaching. The characteristics Knowles outlines are a series of continua. On one end, the learners are self-directed, resourceful, and develop learning from a "need to know" based on daily life and tasks. They are internally motivated by curiosity and a "desire to know". On the other end, they are dependent learners who have few experiences to relate to learning, are presented a standard curriculum not

of their choosing, and are rewarded or punished according to success or failure in the process.



Source: Goodsir, 1978, p.14

Figure 1. Educational Need

The process of learning also consists of a series of continua. On one end are learners who are relaxed, respected, and supportive. Learners and teacher plan together in assessing needs, setting objectives which are designed to allow for readiness to learn, and planning activities which are designed for inquiry, independent study and experience. The activities are evaluated by the teacher and students based on contract and design. On the other end of this process continuum is a low trust and authoritarian system which is planned and diagnosed with objectives set by a teacher. The teacher develops learning tasks, activities, and then evaluates the process.

Knowles (1980) bases his andragogical model on four

assumptions about the characteristics of adults: (1) persons become more self-directed as they mature from a dependent role; (2) individuals develop a growing reservoir of experiences which act as a resource for their own learning and the learning of others; (3) the readiness to learn for individuals is built on the social role and the problems and tasks involved in these demands; and (4) the time between learning and application shortens as one matures. As a result, the learning of the material is not as important as the application of the learning. In other words, the learning becomes more task oriented rather than subject oriented, the motivation to learn by internal incentives in the adult learner is stronger than in children.

Knowles' (1980) discussion of the andragogical concept has broad general base. Apps' (1981) concept of the adult learner returning to campus provides a specific case and application to the population and concepts of this study. However, Apps admits there are dangers of painting too broad a picture of similiarities and differences between adults on campus and "traditional students".

The Knowles Model

Self-Concept

Each person is dependent on others for existance. Husbands and wives depend on each other for support both

emotionally and financially. Individuals depend on employers for income, on customers to purchase goods and services produced, and on farmers and ranchers for food. The list can go on endlessly.

The most dependent of all are young children or babies. They depend upon others for everything--food, clothing, emotional stability and protection. As children grow older, they become more able to make decisions and are less dependent on others for some needs. As they become succeessful in these decisions, their self-concept increases and they are able to make more decisions. It is this movement from dependence to independence that marks the beginning of adulthood psychologically.

One of the ways of increasing self-concept is to take control of one's learning. Public school systems recognize this by allowing some freedom in course selection by high school students. This freedom is not given to younger members of the school population.

As one learns to make decisions about what is important, the individual's social roles also change. The teacher-student relationship is one of these roles. In Knowles' (1980) framework, this increase in self-concept and decision-making means the student-teacher lines are not always clearly defined except in the formal sense. The two individulas now draw on each other for a helping relationship.

When teachers place adults in situations which totally disregard the adult's self-concept and do not allow decisions to be made by or with students, resentments and learning blocks may devlop. The situation may cause students to leave the learning environment or, where they have no choice, to reluctantly stay. The results, in either case, may be little learning. Learning opportunities which enhance the adult's self-concept and encourage self-direction bring about increased motivation and encouragement for future learning situations.

Another of the builders of self-concept is the task or role each of us fullfills in society. Children's roles center on learning: they go to school, study and learn. The major task of the adult in our society is working--to provide for self and/or family.

The division of these tasks in American culture has traditionally been clear cut. One is either a learner or a worker--but not both. However, with the technological changes brought about today, it is difficult to remain a non-learner after leaving the traditional education system. The advancements in our society today no longer last one generation (Knowles, 1980).

According to McClusky (1970), the failure to develop in adults a role of learner and an acceptance of that role occasionally, possibly for extended periods of time, creates problems of self-concept. When a person returns to an educational situation, the "student" may want to become

dependent on the instructor again for the learning process.

Adults who return to campus often face problems in the beginning. Among them:

> There's kind of a negative self-image that's been developing from years of academica, and now, as them come back to academia, they're wondering, 'Will I look dumb? Will I look silly? Will I fail?' And so a good deal of attention has to be paid to helping them build a positive self-image, and particularly by giving them some success experience early in their tenure as returning students (Apps, 1981, p. 50-51).

Gaff and Gaff (1981) point out also:

> While these other relationships may provide stability for the pursuit of education, they also may be barriers to growth and change. Nevertheless, it may be easier for some older person, having accomplished the developmental tasks of younger adulthood and experienced personal changes previously, to cope with identity reformation (p. 644).

Role of Experience

In the andragogical model, experience is developed in two contexts: (1) the act of doing; and (2) the life we have led and the things we have learned. As Dewey (1916) and the pragmatic philosophy of education emphasized "doing", the andragogical model also emphasizes "doing" --active--participation and interaction among the students and with the teacher. In the andragogical model there is a decrease in the emphasis on traditional methods of learning and an increase in experiential learning as well as evaluation of what has been learned in the past. This is not to say the traditional lectures, reading, presentations and

didactic learning are not suitable for adults but that they are best for large numbers of students to be taught for fixed periods of time and when specific types of information are to be presented.

Ingalls (1973) said: "Our experiences is what we have done: i.e., the sum total of our life's impressions and our interaction with other persons and the world . . . 'we are our experiences'" (pp. 6, 7). This seems only reasonable. Adults, by having lived longer, have a larger "volume" and different "kinds" of experiences (Knowles, 1980 and Gaff and Gaff, 1981). Adult activities such as marriage, birth, earning a living, and responsibilities for others are not generally available experiences for children.

> Anyone who has worked with returning students is immediately aware of the great wealth of experience these adult learners bring to the classroom . . . this can be both an asset and a problem to instructors of returning students (Apps, 1981, p. 41).

Children, because of their limited world and life span, consider experiences as external events--something which happens to them. Consequently, their self-identity is derived largely from external sources which play upon them and control them. When asked to identify who they are, children talk in terms of other brothers, sisters, and parents, not in terms of what they do or have done.

The pedagogical model discounts the child's experiences as being of little value to the learning process. Because of children's limited experiences, they have difficulty in

relating subject matter directly to their lives. This problem then identifies itself in demands for the teacher and other instructional staff to make the learning relevant. As the child grows the situation eases.

Apps (1981) uses the following quote from one of his interviews with a professor to show this point:

> When we came back to graduate school, we were a rather organized, sometimes quite politically motivated group of students. We had seen a lot of things outside the classroom (p. 42).

Then, referring to the students who went straight to graduate school from undergraduate, the professor continued:

> They were very energetic but stupid, narrow, and with no sense of what life as about. They knew how to take examinations and that was it. The returning students bring with them a much broader sense of what life's all about. The traditional students are more oriented toward taking tests. They're wordsmiths who snow professors (Apps, 1981, p.42).

Adults on the other hand derive their self-identity from their experiences. They describe themselves in terms related to occupations, where they have traveled, what their achievements have been as well as their social relations, brother, sister, father, mother, husband, wife, and friend. As a result they have a large investment in their experiences. When these experiences are not being used or are degraded in terms of worth, adults feel rejected as persons.

Knowles (1980) lists three major implications for educational situations because of the differences between

adults and children. Because of the role experience plays in learning:

> 1) adults have more to contribute to the learning of others; for most kinds of learning they are themslves a rich resource for learning; 2) adults have a richer foundation of experiences to which to relate new experiences (and new learning tends to take on meaning as we are able to relate them to our past experiences); 3) adults have aquired a larger number of fixed habits and patterns of thought, and therefore tend to be less open-minded (p.51).

If instructors make use of these experiences, the student can develop a more comprehensive understanding of what has or is being learned (Gaff and Gaff, 1981). Broader experiences also tend to make older students more independent and vocal in the teacher-student relationship.

Readiness to Learn

Adults, like children, have their own point at which the "readiness to learn" is important. The adult's point of readiness, however, is less reliant than the child's on the physical and intellectual development of his body (Knowles, 1980). The social development of the adult plays a larger part in setting the readiness to learn or "teachable moment".

Havighurst (1972) has separated the adult years into three different stages, "early adulthood", "middle age" and "later maturity". He goes on to identify ten social roles and suggests that as we move through the three stages of adulthood we are required to perform each of these social

tasks. Thus the adult's developmental tasks and readiness to learn are changing. The tasks for adults differ from those of youth in values, concerns and interests (Gaff and Gaff, 1981).

Adults learn many things as a result of their social tasks development. They learn what is needed and not what ought to be learned. Most adults today have completed the basic education society has to offer and expects. As a result adult learning centers on specific tasks which they want to accomplish.

While meeting the need of the student is seen as the ideal aim of the instructor, the difference between perceived needs versus actual needs creates real conflicts. These conflicts often arise with adults who do not fully understand the background or basic skills needed to learn a task.

Apps (1981) points out adult students are practical in their outlook toward education. They want to see the relationship between the subject under study and goal (i. e., job or career). Apps continues "Another instructor pointed out succinctly, 'The returning student is ready to work. They want the class to work, and they want the instructor to work.'" (p. 48). Gaff and Gaff (1981) add, "Sometimes learners, including adults, may not see the relevance of learning some specific information or methods that faculty or practitioners in the field see as essential" (p. 652).

Orientation to Learning

The time perspective for learning is different for children than adults in relation to four functions: (1) the distance (time) between learning and "payoff"; (2) when something must be learned; (3) the span of time it takes to learn a task; and (4) the amount to be invested in learning a task (Knowles, 1980).

The younger the child the longer the time period between learning and practical application. Children are building skills for future use. This building of categories or subject matter according to Knowles (1980) is taught in a subject-centered frame much like programming a computer.

> For example, taking the assumptions regarding dependency versus self-directness, a six-year-old maybe highly self-directing in learning the rules of a game but quite dependent in learning to use a calculator; on the other hand, a forty-year-old may be very dependent in learning to program a computer but completely self-directed a learning to repair a piece of furniture. As I see it, whenever a pedagogical assumption is the realistic one, then pedagogical strategies are appropriate regardless of the age of the learner--and vice versa (Knowles, 1980, p. 43).

Because adults are generally in learning situations by choice and because they have a "problem" or "challenge" to solve, the adult is performance centered (Knowles, 1980). Adults are spurred by changes in life, marriage, divorce, birth, death, etc. These changes may create an inadequacy in adults which they try to correct. This is not to say the adult is permanently disabled but only in a state of

disequilibrium and striving to correct the condition (Goodsir, 1978).

Time is also related to task completion (Apps, 1981). Younger students emphasize speed in completion of tasks. The formal educational system still works on a 50 minute hour, timed tests, and speedy recall of facts and figures. Adults returning to the educational environment tend to strive more for accuracy on their tasks, this may require more time to complete the tasks. But the adult reaction time also lengthens.

Adults tend to have less time during the day (particularly part-time students) free for learning. Competition with family, job, and other commitments tends to consume blocks of time which might otherwise be free for education. A free hour when the adult has the energy is often difficult to find (Gaff and Gaff, 1981).

Motivation of returning students stems from a want to know. This is in contrast to many traditional students who generally come to higher education because it was expected by parents or friends. This motivation can equalize any differences between bright traditional students and returning students (Apps, 1981).

The implications of programming for adults, in relation to their orientation to learning, center around three areas:

1. The instructional personnel's orientation: educators must develop experiences which use the adults' concerns

to an advantage.

2. The curriculum organization for adults: the material must be presented in a framework which, while giving basic skills, the adult can take back to the world and use tomorrow.

3. The design of learning: learning must be in a problem-centered mode. (Not "This is what we are going to talk about" but "What do you hope to do with the information you gain from this course?".)

Knowles (1980) looks upon this model not as a dichotomy but as continua which are neither good nor bad. The continua do not represent adult learning nor child learning. Depending on the material and the student, persons may be at different locations on the continua at different times in their lives. Materials and personality also effect the individual's location on the continua at specific times or for specific learning tasks. The extent to which a program fits the extreams of the model is a fuction of the age of its students; this tends to be directly related to the program being elective or mandatory and to the level of the students' abilities (Knowles, 1980).

In discussing the use of his model at Boston University Knowles (1969) writes, "First it is overwhelmingly clear that undergraduates in our American colleges do not, on the whole, learn the skills of self-directed inquiry" (p. 263). He goes on to say that students who enter graduate school rely on teachers to tell them what their needs are, to

develop objectives, to tell them what they need to learn, and to provide the evaluation. Further, Knowles says the new graduate students have not been provided, as undergraduates, a chance to develop their own experiences as a learning resource.

Knowles (1969) also notes:

> Secondly, it is clear the basic orientation toward learning that most students have developed in their earlier schooling is one of competitiveness . . . . This is shown by the defensiveness when asked to provide self-diagnosis, also the self-assertion and one-up-manship shown by students in courses which ask new graduate students to work in teams or groups (p. 263).

And finally Knowles (1969) says, "Third, most students find that learning to become self-directed learners is euphoric and ego-expanding" (p. 264). It gives the student a new freedom to grow; i.e., to drop ideas of education as a self-degrading chore and as a vehicle to obtaining a degree and status.

Characteristics of Adults as Learners

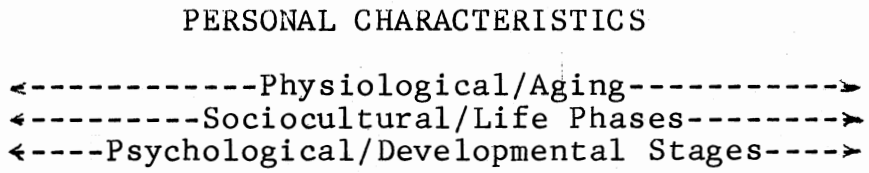
Cross (1981) has developed an updated theory of andragogy about which she says:

> I shall simply call the following framework CAL--Characteristics of Adults as Learners. The explicit purpose of CAL is to elucidate differences between adults and children as learners and ultimately to suggest how teaching adults should differ from teaching children--basically the position of andragogy (p. 234).

The elements of her model lie in two major variables, the personal characteristics of adults and the situational

characteristics of the learning. Figure 2 graphically shows the model.

The aging or physiological continuum is well documented (Knox, 1977), the increase in physical abilties through the early years, a leveling or slowly declining curve to the age of 60 or 65 then a sharply declining curve in the post 60 years. This is for overall physical characteristics, specific characteristics change at different rates (Cross, 1981).



Source: Cross, 1981, p. 235

Figure 2. Characteristics of Adults as Learners

The life-phases continuum may or may not be related to the age of the individual. A graph representing this shows a series of plateaus and transitions along a horizontal axis (Cross, 1981). The developmental continuum of Cross' model is similar to the life-phases. However, it is placed on an ascending axis with the following stage beginning higher

than the previous stage ends (Cross, 1981). The assumptions of the andragogical model, too, are used in the Cross model. Readiness to learn and self-concept are two examples:

> The advantage of placing andragogical assumptions, such as readiness and self-concept, on CAL continua that we can now account for the low level self-direction on the part of some adults. The andragogical assumptions that calls for treating adults as though they are self-directing while children are not--or at least treating adults as though they are more self-directing than children--flies in the face of the experience of many teachers who have worked with dependent adults and independent children. The CAL model calls for considering self-concept a function of developmental growth rather than a matter of childhood versus adulthood. Similarly, the assumption of readiness, interpreted as motivation for learning tasks associated with life cycle, is placed on a sociocultural continuum which is related to age or at least to societal expectations regarding age-appropriate behaviors (Cross, 1981, pp. 238-239).

The educators' responses to the physical changes in adults needs to be adaptive and adjustive according to Cross (1981); e.g., the program's delivery systems and student transportation, the physical characteristics of room and study area, lighting, background noise level need to be adjusted, and the speech patterns of instructional personnel slower and clearer. Instructional personnel need to emphasize task and learning methods which use the students' experience and past learning (crystallized intellegence) (Knox, 1977).

For changes in the sociocultural continuum, educators need to be aware of the transition points of the life cycle. These points of high motivation for most adult learners present opportunities for educators of adults when

educators understand and can successfully design the learning experiences which will aid the transition. Cross (1981) again emphasizes that the educator must understand research and be active in working with the adult to understand and successfully move students to new challenges.

The last of Cross' (1981) three continua, developmental-stage, calls for the educator to become a challenger. Cross uses the assumption that the developmental-stage system is hierarchical and educators should strive to help individuals to the highest level they are able to reach. To succeed at this, the educator needs to motivate learning in the individual. In conclusion Cross (1981) says:

> Notice that the same educator operating across all three continua might create a warm and accepting environment on the physiological dimension; a cooperative, adventuresome environment on the life-phase continuum; and a challenging environment for stimulating developmental growth on the developmental-stage continuum (p. 240).
>
> The CAL model provides one possible framework in which to organize and interrelate present knowledge and to identify research gaps where knowledge is needed (p. 241).

The second element of Cross' (1981) model deals with the situations in which individuals learn. In the first component of Cross' model, as with Knowles' (1980) model, the continua are generally seen as dichotomous. However, Cross says they are not as pure as Knowles' model. That is, it is easy for an individual to move from part-time leaner (generally thought of as the adult) to full-time learner

(generally thought of as the child or youth learner) when the individual crosses an arbitrary point, possibly a specific number of credit hours.

The second component of the situational element is the voluntary versus compulsory learning. Again, the generally accepted role of education for children is compulsory attendance while it is voluntary for adults. These, while generally accepted, are not always true. Adults may be learning in voluntary situations; e.g., self-directed learning or in complusory situations; e.g., relicensure required by law.

> Thus while some argument can be made for the existence of continua underlaying the CAL situational variables, the continua are quite different from those of the personal variables. They do not represent the continuous growth of children into adults; rather, they represent differences in the extent to which the variable operates in the adult learning situation. In short, a full-time adult learner would still be treated differently from a schoolchild because of his or her position on the personal characteristics continua. For the overwhelming majority of adults, however, both personal and situational characteristics would be considered in educational programming (Cross, 1981, p. 242).

Population Trends

As stated above, the age characteristics of the population of the United States are changing. The distribution of the population at the opening of the Twenty-first Century will show the largest age group will be the 30 to 44 year olds and increasingly the shift will be to the 45 to 64 year olds (Hobbs, 1980).

In Higher Education

These changes in the general population can also be seen in the portion which attends institutions of higher education. In 1972, almost 9.1 million persons 14 and older were enrolled in the nation's colleges and universities. Of this 44 percent were 22 years or older in 1972; however, in 1980, 50.7 percent were 22 years or older (Hobbs, 1980).

In 1979, college enrollment for women outnumbered men two to one for the first time (Hobbs, 1980). The decrease in enrollment among men most likely can be attributed to the changes in G I Bill eligibility and use since 1974 and the statistical effect of more men in the civilian labor force. In 1970, 23.4 percent of those ages 20 and 21 and 14.5 percent of the 22 to 24 year olds were in the armed services. In 1980, 8.5 percent and 6 percent respectively were in the armed services (Bureau of the Census, 1981).

During the fall of 1979, 11.5 million students were enrolled in the nation's two and four-year colleges and universities. Forty percent of these were part-time students (Apps, p. 14). Between 1969 and 1975, part-time enrollment increased 31 percent (Boaz, 1978). Less than half of this increase can be tied to the population changes. The 17 year of age and older population only increased 12.6 percent (Cross, 1981). The part-time enrollment of students has accounted for half the growth in colleges and universities. The enrollment of part-time students between 1975 and 1980

accounted for almost all of the college growth and enrollment in community and other two-year colleges (Bureau of the Census, 1981). Part-time enrollment has grown twice as fast as four-year enrollment.

Undergraduates who were 25 to 34 accounted for a doubling of this population group in 10 years. Of the 25 to 34 year old undergraduates, 45 percent were enrolled in two-year institutions (Bureau of the Census, 1981).

Cross (1981) concludes: (1) The increasing rate of adult's participation in education cannot be sustained, and (2) the increases cannot be totally and solely tied to the baby boom of 1946-1959 since the rates of participation are even larger than this segment of the population.

Cross goes on to ask if the higher education community is headed for more problems to match the retrenchment problems of the 1980's. Her response is "no". The segment of the population which will make up the new increasing enrollments, or at least sustain the enrollments, will be from a larger portion of the population. Rather than dealing with five or six years of a life span as the traditional population has been, the new students will be drawn from a wider portion of the population, 50 years or more of a life span. She also concludes that the social forces of change will always be with us and education is seen as a solution to coping with these changes.

In Oklahoma

A look at Oklahoma specifically brings the impact into focus. Oklahoma Higher Education Enrollment and Projections published by the Oklahoma State Regents for Higher Education (1963) discussed the projected impact of the changing population. This shift can be seen by the median age change. In 1940, the median age of Oklahomans was 26.2 years. In 1950, it was 28.9 years. And in 1960 it was 30 years of age.

University and college enrollment in 1961 for individuals 24 and older represented 18.7 percent of the state's total enrollment and 13.3 percent of the undergraduate enrollment. Among other findings the Oklahoma State Regents for Higher Education (1963) reported:

> An increasing number of adults formerly considered to be above the conventional college age are enrolling in Oklahoma colleges and universities. A closely related finding is that pertaining to the number of married students in college. For those students who survive to graduation, four in 10 will likely be married. These trends have significant implications for programs, student housing, counseling services, and planned social activities on the campus (p. 74).

A similar report by Hobbs (1980) 17 years later titled Planning for the 1980's looked at the 1970's and projected to 1985. On a national scale, the report projects a stable population for the next 20 years with a change of a 10 to 15 percent decline.

During the 1970's Oklahoma's population grew 12.5 percent. But by 1997 the 18 to 24 year old pool for

undergraduate education is projected to decline by 23.3 percent. With growth in the other portions of the state's population a reality, Hobbs (1980) again stated:

> The growth of that [65 plus] population segment will have a significant impact on higher education during the next two decades, as colleges seek to develop programs geared to meet the needs of older adults in the fields of nutrition, social services, health care, legal services, recreation, and many other areas. Second only to the factor of race, the age factor will probably have the greatest impact on higher education in future years (p. 7).

Projections for Oklahoma are that the 18 to 24 year old population will decrease 6 percent between 1980 and 1985 and 12.5 percent between 1980 and 1990.

> Forcasting for the decade of the 1980's is frought with uncertainty and peril. Enrollment increases after 1982 do not appear to be reasonable, since there will be a downturn of some magnitude in the number of people in the 18-24 age cohort both nationally and locally. However, that deceasing coincides with an increase in the number of individuals over 25, and it cannot yet be predicted how much of the enrollment slack will be taken up by this population segment (Hobbs, 1980, p. 22).

According to the 1980 report, another impact for the 80's will be the part-time student.

> Because the number of part-time and adult students has been increasing faster than the number of full-time students it now takes more head-count enrollment than formally to equal a full-time-equivalent enrollment . . . the relationship of head-count enrollment and full-time equivalent enrollments in the State System for the past decade, indicating that whereas each 100 headcount students in 1969 represented 90 full-time equivalent work-load units, the same number of individuals in 1974 represented only 79 work-load units. By 1985, each 100 students will represent only three-fourths as much teaching work-load as 100 students did in 1969. Put another way, it will

> require about 140 people in 1985 to produce the same number of student-credit-hours as it took 100 people to produce ten years ago (Hobbs, 1980, p. 28).

At Oklahoma State University

A study conducted by the Office of Institutional Research at Oklahoma State University in the fall of 1981 showed an interesting trend. The 18 and under age group declined 11 percent between 1976 and 1981. The 19 year olds also declined by 2 percent. However, all other older classifications increased. The 30 to 39 year old group increased 28 percent. The reason for the change may be attributable to a combination of three causes:

1. Oklahoma State University's "isolated" location. The 1961 Oklahoma State Regents for Higher Education study states it best:

> A factor closely related to college attendence in Oklahoma is the proximity of a college to the student's home.
>
> With the exception of two institutions, a majority of the freshmen residents of Oklahoma enrolled in the 18 colleges and universities in the State System live within a 50 mile radius of the campus where they are enrolled (p. 73).

2. Increased enrollment at the community college level. The Hobbs (1980) report put it this way:

> At the same time public two-year colleges were increasing by more than 50 percent, enrollments in comprehensive public universities increased from 39,213 in 1974 to 43,634 in 1979, a gain of 11.3 percent. State universities and special-purpose universities grew from 37,790 to a total of 39,928, or 5.7 percent . . . (p. 17).

3. The postponement of educational activities as seen in the statistics when broken down by individual age by year for the freshman class (p. 17).

As a point of comparison to the state and OSU, an Office of Student Affairs Research at University of Oklahoma (1980, p. 45) study showed:

1. In the 19 to 29 year old age groups, enrollment decreased between 1975 and 1979.

2. The largest increase in enrollment has occurred in the 30 plus age group with a net increase of 9.5 percent.

3. The 20 and 21 age group decreased by 10 percent.

4. A portion of the study ranked various characteristics of the 1975 freshman class not enrolled at the end of four years. The most drop-outs occurred among students 31 and over with a 90 percent rate. Ranked sixth, seventh, eigth, and tenth were 20, 21, 30-32 and 22 years olds respectively.

Faculty-Student Relationships

As can be seen from the discussion outlined above students from the older portion of the population are not the same as the traditional student body. Gaff and Gaff (1981) point out that this also extends to the relationship of faculty and students inside and outside the classroom. They say:

> The nature and dynamics of student-faculty interaction, always complex and subtle, are likely to be further complicated by the expanded age range of students. Although the relationships between

> the key actors in any educational drama are fixed to some extent by the traditional nature of that process and by the institutional context in which it occurs, certain changes can be expected as faculty increasingly find themselves dealing with older students, who differ in important ways from traditional college-age students (p. 642).

Gaff and Gaff (1981) say the research on adults has been centered on the development of individuals and not on the relationship with others who direct educational situations. Therefore, they make an attempt to extend the research of traditonal students to the new student body.

According to Bowen (1977), the traditional student body of higher education is significantly changed in relation to intellectual related pursuits and shifts in values and attempts to develop personal identity. However, as with most relationships, the student who develops most makes efforts to interact with faculty. Gaff and Gaff (1981) report:

> The kinds of teaching and learning that are effective in promoting student development depend not solely upon the personal qualities of teachers and students but also upon the relationships by which they are joined (p. 649).

Pascarella and Terenzini (1977) show quantity (as with many relationships) is not as important as quality of the infomal relationship regarding those who finish and those who do not finish among freshmen.

> . . . not all types of student-faculty interaction are of equal importance in fostering academic and social intergration, and there by, college persistence. Contacts focusing on intellectual or course-related matters clearly contributed most to discrimination between persisters and voluntary leavers . . . The second most effective discriminatory variable . . . involved discussion related

> to students' career concerns . . . Perhaps it is in helping the student develop an interest in ideas and intellectual concerns which extends beyond the classroom into more leisurely interpersonal settings that student-faculty informal relationships have their most significant impact on students' social and academic integration (pp. 550-551).

Also related to student satisfaction with instruction is the size of the institution. Astin (1977) found size and living accommodation, on-campus or off-campus, help to affect the success of students. Chickering (1974) also found the student residence of significance. Dormitory students derived more benefits intellectually and personally than commuter students. Gaff and Gaff (1981) conclude:

> Although these studies have been conducted with traditional-age students, it is likely that the trust of their conclusions can be generalized to adult students. That is, the quality of relationships with faculty is likely to be related to the satisfaction adults have with the college as a whole and to the intellectual and personal development they experience. It is quite likely that the value of quasi-residential experiences that permit students to interact with their teachers informally will be as important for adults as for younger students (pp. 650-651).

Gaff and Gaff (1981) suggest the changes in the format of course offering will be needed. The traditional 50 minute hour which meets once a week for each credit will need to be more flexible and alternatives developed: programs such as weekend colleges, short courses, seminars and night programs.

> These alternatives have potential not only because they are convenient for working adults but because they are more suited to some styles of learning. They allow individuals to become more immersed in the subject matter so that it may have greater

> influence upon their thinking. However, a shortened period of time means that interpersonal relationships will have to be formed more quickly and goals stated more clearly and explicitly. The more intensive schedule will obviously suit some types of learners better than others. It may not maximize learning in those individuals for whom the learning process takes a longer time (Gaff and Gaff, 1981, p. 651).

These changes are not to suggest the traditional interaction of course and classroom are not productive or useful but that the overuse can be restrictive, emphasize the power relationship of instructors and limit the interaction of students which promotes learning (Gaff and Gaff, 1981). The use of alternatives can be more responsive to their needs.

Content changes in the curriculum also are required to enhance the student-faculty relationship. Gaff and Gaff (1981) suggest:

> In most educational systems the teacher is the main actor, who typically holds forth from center stage. Adults may well be less interested in what the teacher knows however, than in what use that knowledge is to them. The interests and needs of the adult learner may become more central than the interest and competencies of the teacher; rather than being the principal actor, the teacher might better play the role of stage manager, arranging the conditions in which the learners can best perform. This need not mean that the teacher loses authority or control or that he or she is unimportant in the learning process; rather, it redefines the teacher's role as a facilitating one. This obviously changes traditional faculty-student relationships, making them closer and more collegial (pp. 651-652).

On an instructional level, some faculty do influence the traditional undergraduate (Jacob, 1957). Some ten years after Jacob's study Fieldman and Newcomb (1969) reviewed

intervening literature and also concluded that individual faculty members do influence students. They concluded it was the experience of college more than the faculty in general which influenced traditional students. Astin's (1977) study Four Critical Years also bears this out.

Wilson, Gaff, Dienst, Wood, and Baury (1975) in a longitudial study concluded there was a significant difference between faculty who were reported to have significant impact and other faculty. They found: (1) teaching provided their number one interest with teaching undergraduates more of an interest than graduates; and (2) they made an effort to develop a "human touch" to their classes by telling of their own experiences using anecdotes in class, as well as discussing significant issues with students. However, most significant was the willingness of faculty to interact outside the formal classroom.

As adults become more and more part of the higher educational system they will apply pressure to change the format of learning as well as content. Faculty will feel pressure in several areas. The format approach will be drawn from a broader range of alternatives: open-entry/open-exit, use of community resources, self-pacing and greater emphasized experiental learning (Gaff and Gaff, 1981).

Experiential learning will also test faculty. Instructors who have only theory on which to base their teaching will find students testing them for correctness and being

assessed on the truth of the theory (Gaff and Gaff, 1981). Faculty will also find they will need to evaluate the learning from experience. Institutions will also need to adjust their policies to allow for greater use of experiential learning. By developing more chances for informal interaction with the faculty, Gaff and Gaff (1981) suggest:

> If the development of younger students is aided by casual and frequent interaction with faculty and peers, it would seem that such interaction would facilitate personal growth for older students as well (p. 653).

Students who live on campus or around campus and attend college full-time are in the best situation for using the informal situations to learn and to build these relationships. But Gaff and Gaff (1981) point out:

> Most mature learners are not free to move into student residences, whatever educational benefits they might derive from them. There is evidence that, whatever the subject matter it is likely to have greater impact on the development of students --young and old-- if it is studied at least partly within a residential context (p. 653).

Institutions of higher education and faculty have a history of being slow to change. Historically they have been a "sellers' market" requiring the student to fit the institution and faculty time frame. Gaff and Gaff (1981) say this inflexibility and regimentation will not be tolerated by many of the new population. The university cannot expect the total adjustment for attending to be on the part of the student. Rather that the university needs to make some accommodations in format and regulations to be made.

Use of the Educational Orientation Questionnaire

Holmes (1977) and Kerwin (1979) used the EOQ along with other instruments to identify characteristics of adult educators' relationship with the pedagogical-andragogical orientation. Kerwin studied two-year community college faculty and Holmes land-grant continuing education and cooperative extension personnel.

Kerwin found age was not a significant factor relating to the faculty member's pedagogical-andragogical orientation nor was teaching full-or part-time. His study did show a significant difference between the sexes (men were less andragogical than women) and student's perceptions of a faculty member (student's perception overall of andragogical faculty was significantly different than student's perception overall of the pedagogical faculty member).

Holmes (1977) found Cooperative Extension personnel more andragogical than the university continuing education personnel. He then used a stepwise regression analysis to identify the most significant factors of the Fundamental Interpersonal Relation Orientation Behavior Scale (Schutz, 1966) to predict the andragogical-pedagogical orientation of the faculty member.

Holmes found for the pedagogical-oriented subjects "expressed" and "wanted control" to be the "best interpersonal behaviors for explaining a pedagogical orienation".

For andragogical orientation "expressed and wanted inclusion were the best predictors" (pp. 48-50).

In conclusion Holmes pointed out at Auburn:

1. The university continuing personnel were relatively newcomers to informal adult education while the Cooperative Extension group had been providing the services for many years.

2. The personnel who have begun working in the continuing education areas have developed from the ". . . traditional philosophy of education mold which has emphasized teacher-directed learning rather than self-directed learning" (p. 68).

3. His sample may have been influnced by the large number of returns from the sciences. These fields would be expected to operate in a role of "authority, technical expert and director of learning" (p. 68).

Summary

This chapter has dealt with a review of the literature concerning the andragogical model, population trends and the literature of student-faculty relations as well as the use of the Educational Orientation Questionnaire. The review of the andragogical model has focused on work by Knowles (1979, 1975, 1978, 1980) because he developed the framework and most, if not all, discussion since 1970 has referenced or quoted Knowles' work. His model is developed on four major assumptions: (1) the self-concept of adults is such that

adults develop self-direction in learning; (2) the learner and the teacher work in a give-and-take relationship on equal levels; (3) the adult has more experiences which allow him to relate new learning situations better than children; and (4) the adult is generally in a learning experience because he wants to learn. He is ready to learn the task and may be ready to use the learned task within a short time.

In addition to the discussion of the andragogical model the literature review covers a relatively new development, Cross' (1981) "Characteristics of Adult Learners". Cross developed, using current research, a modified version of Knowles' model. She divides the learning characteristics into two elements: the first concerns the individual; the second, the situation in which the learning takes place.

In Cross' model, the individual is located on three continua which deal with the effects of the physiological, sociocultural and psychological changes of the adult. The physiogical changes deal with the aging process and the physical characteristics of the individual; e.g., sight, hearing, etc., which occur over time. Sociocultural or life-phases deal with tasks and roles the individual is experiencing and the developmental continua deal with the individual's growth to improve himself.

The situations in which adults learn is the second element of Cross' model. Adults "float" in and out of part-time and full-time learning situations depending upon

the goals and circumstance of the individual. The requirements of the situation and the reason for the learning of the task; (i.e., voluntary or compulsory) also effect the adult learning.

The second objective of this chapter was a review of the population trends of the nation in general and higher education in Oklahoma in particular. The population of the United States is growing older (the average age is increasing). The State of Oklahoma and Oklahoma State University have not escaped the national trend. In 1940, the average age of the state's population was 26.2 years of age; in 1960, it was 30.

The census figures show that as the baby boom of the late 40's and early 50's moved through the school years, drastic changes have taken place, a boom in building elementary schools, then secondary schools and finally the postsecondary schools. The end of the boom has affected traditional postsecondary years, resulting in a fear that higher education might become the next "bust" in education. However, individuals are returning to colleges and universities for schooling which will make them better able to finish educations which were interrupted for various reasons. The population of higher education, in addition to becoming older, is becoming more female, with women out numbering men two to one. Another characteristic of the changing population trend is the enrollment which makes up the student body of the system. It is becoming more a system of part-time

students. The State Regents report the increasing number of part-time students is reflected in Oklahoma's colleges and universities--it will take 140 students in 1985 to produce the credit load that 100 students did in 1970.

The last section of this chapter has dealt with the relationship between the faculty and the students, specifically how the changes in population will change the relationship between the two traditional adversaries. Older learners are thus likely to be more demanding consumers of education. These demands from tax-paying citizens can have a pervasive effect on student-faculty relationships. Faculty will be expected to perform their services with reasonable consideration for the needs and goals of their students, at reasonable cost--both financial and psychological--and to deliver what was advertised.

Chapter III

METHODOLOGY

The major purpose of this study was to identify the andragogical-pedagogical orientation of instructional personnel in the College of Arts and Sciences and the College of Education at Oklahoma State University. This chapter is devoted to the discussion of methods of data collection, analysis of data, and how presentation of the data will be accomplished. Specifically the following sections are discussed: (1) type of research, (2) population, (3) instrument, (4) data collection and (5) treatment of the data.

Type of Research

Turney and Robb (1971) catagorized descriptive research as an attempt to answer the question:

> Does the research deal with what is? If it does, then it is descriptive research. Descriptive research is that process that is concerned with characterizing the features of situations, objectives, or practices. It allows one to find out pertinent information about an existing situation. Descriptive research usually is thought of as an effort to determine current practice or status so the we may develop guidelines for future practices (p. 8).

Huck, Cormier and Bounds (1974) further describe this type of research as an attempt to describe things instead of

attempting to discover a cause-and-effect relationship.

Because many educational research problems are "people centered" Turney and Robb state ". . . the situation precipitating these problems are constantly in a state of change" (p. 62). These types of problems fit the descriptive methods well. They go on to state:

> Descriptive methods can tell us about what currently exists. Descriptive studies are designed to determine the facts of the current situations and thereby to clarify status. That is, the present situation may be surveyed and interpretively described in terms of all avaiable facts. However, descriptive (or status studies) do not necessarily indicate that current situations are either good or bad (p.62).
>
> One type of descriptive research is the survey. The survey is an attempt to analyze, interpert and report the status of an institution, group, or area in order to guide practice in the immediate future (p. 63).

This study was an attempt to describe the situation within a selected number of Oklahoma State University faculty relating to their orientation toward education using the andragogical-pedagogical model.

Subjects

The subjects for this study were the instructional personnel within the College of Arts and Sciences and the College of Education at Oklahoma State University teaching at least 25 percent full-time equivalent (FTE). Faculty members teaching less than the 25 percent FTE were excluded because teaching accounted for only a minor function of their work assignment. The Office of Institutional Research

provided the researcher the full-time equivalent percentages for the study.

Instrument

The questionnaire used in this study (see Appendix B) was developed by Hadley (1975) under the supervision of Knowles, the original synthesizer of the model under study. Hadley developed his Educational Orientation Questionnaire (EOQ) as an attempt to measure the respondent's assumptions and beliefs about education. He developed a six dimensional framework to measure the respondent in the following areas: (1) the purpose of education, (2) the nature of the learner, (3) the characteristics of the learning experience, (4) the management of the learning experience, (5) evaluation, and (6) the relationship among learners and between learners and educators.

The profiles which were developed are represented by a numerical value which places the individual on the continuum between andragogical orientation and pedagogical orientation. Content validity analysis was tested by Hadley on the data to statistically support the original findings. Hadley found the factor analysis that supported the main element was indeed the pedagogical-andragogical orientation of the respondents.

The instrument utilized was a 60-item questionnaire with Likert-type responses. Thirty of the items focused on pedagogical education and 30 focused on assumptions dealing

with andragogical education. The Likert-type responses were spread over a five-point scale: strongly agree, agree, uncertain, disagree, strongly disagree. Scoring was 1 to 5 with andragogical-oriented questions, 1 being strongly agree and 5 being strongly disagree. Reverse scoring was used. The pedagogical-centered questions were scored 1, strongly disagree and 5 strongly agree.

Concurrent validity of the instrument was established by having three other people evaluate the subject on his educational orientation. The validity coefficient on each scale was judged good. Reliability was measured by use of a test-retest system. The results gave a measure of .89 and a coefficient alpha of .94. Multiple regression analysis gave productive validity coefficients which ranged from .50 to .60 for the summary scores.

The professional and personal information desired for this study was obtained with additional questions developed by the researcher. These questions included age, highest degree earned, department or division assignment, years teaching experience and average number of hours spent each month performing extension/service work. No personal identification was requested. The cover letter (Appendix A) which accompanied the questionnaire explained the purpose of the study and the procedure on how to return the questionnaire.

Data Collection

The questionnaire and accompanying letter were sent by "campus mail" to faculty on the Oklahoma State University campus who met the population parameters during the fall of 1981. The respondents were given two weeks in which to return the completed questionnaire. A follow-up questionnaire was mailed two weeks later asking those who had not responded to do so within one week. The data was coded and key punched for computer analysis.

Analysis of Data and Statistical Procedures

In selecting statistical techniques to analyze data for this study, two major elements were considered: (1) type of measure; i.e., nominal, ordinal, interval or ratio scales; and (2) assumptions about parametric and nonparametric tests. According to Ary and Jacobs (1971), each of the scales have the following characteristics:

1. Nominal Scale: a simple classification system without the ability to manipulate the classes by addition, subtraction, multiplication or division.

2. Ordinal Scale: a ranking system which only indicates a relative position with others in the comparison. There is no expression of distance between the positions.

3. Interval Scale: in addition to having the characteristics of classification and ranking, there is equal intervals from an arbitrary point.

4. Ratio Scale: in addition to having equal distance between subjects, there is a true zero point giving the scale the ability to be used for ratios and manipulation which this allows.

The responses to the EOQ were recorded with Likert-type scales. Turney and Robb (1971) state regarding the limitations of Likert scales:

> One limitation is that we cannot assume that the distances between the scale positions are equal. Another is that the scale does not tell us how much more favorable one subject's attitude is toward an issue than another individual's--just that there appears to be a differerence. Furthermore, with the scale we can determine that there has been a change in attitude, but not the extent of the change. And, of course, there is the possibility that two individuals who are given the scale may get the same score for an attitude though different combinations of items scores, and that this would confound the results somewhat (p. 141).

Because of the problems outlined by Turney and Robb, this study used ordinal scale statistical tests.

The second point, that of assumptions for parametric and non-parametric tests, concerns the assumptions a researcher must make about the characteristics under investigation and the distribution of those characteristics in the population. Three basic assumptions are necessary for a parametric test:

1. The characteristics are normally, or near normally, distributed in the population.

2. The characteristics are homogeneous in the population.

3. The sample statistics provide an estimate of the population parameters. Violation of these assumptions call for use of nonparametric tests.

> For this purpose nonparametric tests have been developed. Nonparametric tests require fewer assumptions about data than parametric tests and therefore can be used in a wide variety of situations where parametric tests would be inappropriate (Ary and Jacobs, 1976, p. 395).

Because the characteristics under study cannot be assumed to be normally or near normally distributed in the subjects, nor can it be assumed they are homogeneous in the subjects, nonparametric tests were selected for analyzing data. These tests include the Kruskal-Wallis one-way ANOVA, the t-test and Mann-Whitney U follow up.

Statistical analysis for this study was carried out in three stages. First, frequencies were computed for each of the demographic characteristics. Second, the scores were computed for each person and means for each department and characteristic computed and ranked. The ranked scores were then divided into quartiles to identify the pedagogical-oriented (first quartile) and the andragogical-oriented (fourth quartile) departments. Third, these means were tested by Kruskal-Wallis one-way ANOVA's for significant variation in the characteristics. Significant values were tested to identify the source of the variance. The .05 level of significance was chosen.

CHAPTER IV

PRESENTATION OF FINDINGS

This chapter presents the findings of the research. The following sections describe: (1) population of the colleges, the study group, and the return group; (2) demographics of the return group; (3) response by individual Subscales; (4) response by the Educational Orientation Questionnaire (EOQ) score; and (5) the presentation and analysis of the collected data.

Subjects of the Study

The purpose of this study was to examine the andragogical-pedagogical orientation of the teaching faculty in the College of Arts and Science and the College of Education at Oklahoma State University. During the fall term 1981, the College of Arts and Science full-time faculty included: 26 department or other administrative heads, 95 professors, 104 associate professors, 103 assistant professors, 21 instructors and 40 "other faculty" which included visiting faculty of various ranks and special "faculty" for a total of 387 personnel assigned to academic departments or teaching. Table I presents a breakdown of full-time faculty by department.

TABLE I

DISTRIBUTION OF FACULTY AND RETURNS BY DEPARTMENT

Department	#of Faculty[1] in the Dept.	#of Faculty Meeting Criteria	Return[2]
College of Arts and Sciences			
Dean's Office	5	2	2
Microbiology	6	6	3
Botany	10	10	3
Art	14	13	6
Humanities	8	5	4
Religious Studies	7	6	3
Philosophy	8	8	2
Music	19*	20	9
Theater	6	5	1
Health P.E.Leisure Serv.	20	16	8
Journalism	20	15	9
Zoology	20	16	8
English	25	22	11
Foreign Languages	15	14	4
Speech	6	6	6
Speech Pathology	9*	10	6
Computer Science	9	9	3
Mathematics	34	26	12
Statistics	12	11	6
Chemistry	29	10	9
Geology	13	12	5
Physics	24	17	4
Geography	14	11	4
History	20	17	3
Political Science	14	14	4
Sociology	20	19	7
College of Education			
Dean's Office	5	1	0
Curriculum & Instruction	24	22	13
Applied Behavioral Studies	10	16	8
Education Administration	8	8	7
Psychology	21	20	12
Occupational & Adult Ed	14	10	9
Total	477	405	191**

* Due to resignations between fall and winter term, questionnaires were sent to individuals no longer on campus.

** Two additional questionnaires could not be identified as to department assignment.

1. Source: Office of Institutional Research, OSU.
2. Useable questionnaires.

During this same term the College of Education included 90 full-time faculty, 9 classified as department or other administrative heads, 29 as professors, 26 associate professors, 20 assistant professors and 6 instructors. Table I also lists the breakdown of the College of Education faculty by department.

The response rate for this study was 202 from a survey size of 405 for a 49.9 percent return rate. One hundred ninety-three of the 202 returns were useable. Three possible returns of the survey were "lost" to the study because of resignation and illness between the terms, making return impossible. Table I lists the survey population of each college by department. Table I also lists the number of faculty in each department to which questionnaires were sent.

Subjects' Characteristics

The faculty were asked to provide information on nine characteristics: (1) rank, (2) department, (3) highest earned degree, (4) percent of teaching load undergraduate and graduate, (5) graduate faculty membership, (6) years teaching in higher education, (7) tenure, (8) age, (9) amount of time per month spent working on extension activities. One additional characteristic, sex, was provided by the researcher from data developed for the mailing list.

Of the 193 useable responses, 64 or 33.2 percent were professors, 61 or 31.6 percent were associate professors, 58 or 30.1 percent, were assistant professors and 10 or 5.2

or 30.1 percent, were assistant professors and 10 or 5.2 percent were instructors. The results are shown in Table II.

When the respondents were identified by sex, 32 or 16.6 percent were female and 157 or 81.3 percent were male. From information provided, sex of four or 2.1 percent could not be identified. The results are shown in Table II.

When asked about membership on the graduate faculty, 78 or 40.4 percent indicated they were not members of the graduate faculty. Forty-two, or 21.8 percent, indicated they were associate members. These data are shown in Table II.

The majority of the respondents were tenured, 127 or 65.8 percent, while sightly more than one-third, 34.2 percent or 66 were not tenured. The number of respondents by tenure is shown in Table II.

When considering experience, the distribution of respondents to this study was positively skewed. Seventy-six or 39.4 percent of the respondents had 10 years or less of experience teaching at the university or college level. Forty or 20.7 percent of the respondents had taught 21 or more years in higher education. Six, or 3.1 percent, did not indicate years experience. Table II gives the distribution of respondents by years experience.

The respondent's distribution by age shows a median age of 43.42 years and a mode of 38 years. Table II details the distribution of the subjects by age.

TABLE II

FREQUENCIES AND PERCENTAGES OF FACULTY
BY DEMOGRAPHIC CHARACTERISTICS

Characteristics	Frequency	Percent*
Rank		
Professor	64	33.2
Associate Prof	61	31.6
Assistant Prof	58	30.1
Instructor	10	5.2
Sex		
Female	32	16.6
Male	157	81.3
Not identified	4	2.1
Graduate Faculty Membership		
Full	78	40.4
Associate	42	37.8
Not a member	42	21.8
Tenure		
Yes	127	65.8
No	66	34.2
Experience (years)		
1- 5	37	19.5
6-10	39	20.2
11-15	36	18.7
16-20	35	18.1
21-25	16	8.3
26-30	13	6.7
31-35	8	4.1
36+	3	1.6
Blank	6	3.1
AGE (years)		
25-30	12	6.2
31-35	28	14.5
36-40	36	18.7
41-45	26	13.5
46-50	26	13.5
51-55	24	12.4
56-60	20	10.3
66-65	16	8.3
66-70	3	1.6
Blank	2	1.0

* May not equal 100 due to rounding

earned doctorates, 28 or 14.5 percent held earned masters, and 1 or .5 percent held another degree. The respondent in the "other" category listed two bachelors degrees. Table III lists the distribution of the subjects by degree.

TABLE III

DISTRIBUTION OF RETURNS BY DEGREE ATTAINED

Degree	Frequency	%
Doctorate	164	85.0
Masters	28	14.5
Other	1	.5

Sixty-six or 34.2 percent of the respondents did some work off-campus under the extension program while 46.6 percent or 90 indicated they did some "extension" work on-campus. Table IV shows the detail of this distribution in average hours per month.

The distribution of respondents by percentage of undergraduate teaching load showed six high points. Sixty-eight or 35.2 percent had 100 percent load teaching undergraduates; 10 or 5.2 percent had a 90 percent load; 14 or 7.3 percent had a 75 percent undergraduate teaching load, 33 or 17.1 percent had 50 percent teaching load; 13 or 6.7 percent had 25 percent teaching load; and, 28 or 14.5 percent had no undergraduate teaching load.

TABLE IV

DISTRIBUTION OF FACULTY BY HOURS OF EXTENSION WORK

Hours	Off-Campus Freq.	Off-Campus %	On-Campus Freq.	On-Campus %
1- 5	21	10.9	24	12.4
6-10	13	6.7	12	6.2
11-15	8	4.1	6	3.1
16-20	10	5.2	10	5.2
21-25	4	2.1	3	1.6
26-30	2	1.0	1	.5
31-35	0	0	3	1.6
36+	8	4.1	31	16.1
Blank or 0	127	65.8	103	53.4

Five high points in the distribution of faculty teaching graduate level are: 83 or 43 percent of the respondents did not teach graduate courses, 17 or 8.8 percent of the respondents had a 25 percent graduate level teaching load while 33 or 17.1 percent of the respondents taught at least 50 percent of their load at the graduate level. Seven or 3.6 percent of the respondents taught at the 75 percent level and 18 or 9.3 percent of the respondents had 100 percent graduate teaching loads. Table V shows the distribution of both undergraduate and graduate teaching loads.

Discussion of Subscales

The Educational Orientation Questionnaire (EOQ) (see Appendix B) is divided into six Subscales. Figure 3 shows the dimensions, and question numbers in each dimension.

TABLE V

DISTRIBUTION OF PERCENT OF TEACHING LOAD
BY UNDERGRADUATE AND GRADUATE FTE

Percent Teaching	Frequency Undergrad	Percent	Frequency Grad	Percent
0	28	14.5	83	43
5			2	1
10			11	5.7
12			1	.5
15	1	.5		
17	1	.5	2	1.0
18	1	.5		
20	1	.5	3	1.6
25	13	6.7	17	8.8
30	1	.5	2	1.0
33	1	.5	3	1.6
40	2	1.0	3	1.6
44			1	.5
50	33	17.1	33	17.1
56	1	.5		
60	4	2.1	2	1.0
67	4	2.1	1	.5
70	4	2.1	1	.5
75	14	7.3	7	3.6
80	3	1.6	1	.5
82			1	.5
85			1	.5
88	1	.5		
90	10	5.2		
95	2	1.0		
100	68	35.2	18	9.3

It is difficult to isolate each of Hadley's (1977) Subscales into Knowles' (1980) assumptions since they are not isolated elements. As can be seen by examination of the questionnaire, the Subscales overlap at least two or three of the model continua.

Subscale 1, Purposes of Education, is an attempt to

discover the individual's general attitudes and beliefs about education and deals with basic assumptions of Knowles' entire model. The questions on this Subscale center on what education should be and what type of education should be encouraged.

Scale 1: Purposes of Education
  Pedagogical: 1, 13, 27, 39
  Andragogical: 2, 14, 28, 40, 43, 52
Scale 2: Nature of the Learners
  Pedagogical: 3, 15, 29, 41, 53
  Andragogical: 4, 30, 31
Scale 3: Characteristics of Learning Experiences
  Pedagogical: 5, 16, 17, 32, 44
  Andragogical: 6, 18, 33, 45, 51, 55
Scale 4: Management of Learning Experiences
  Pedagogical: 7, 19, 21, 34, 46, 54, 56, 60
  Andragogical: 8, 22, 35, 47, 49, 57, 59
Scale 5: Evaluation
  Pedagogical: 9, 23, 48
  Andragogical: 10, 24, 36, 50
Scale 6: Relationships: Educator-Learner and Among Learners
  Pedagogical: 11, 20, 37, 42, 58
  Andragogical: 12, 25, 26, 38

Source: Hadley, 1975, p. 77

Figure 3. Subscales and Question Numbers

The second Subscale, Nature of the Learner, is an attempt to identify the view from which the instructor sees the learner. Is the student "good or bad", does the student attempt to manipulate instructors to "get by", does the instructor see students as one mass which is homogeneous and childlike, unknowing and in need of guidance?

The third Subscale titled Characteristics of Learning Experiences centers on the role an instructor should take: should he be an information giver, a filler of the student's

mind, similar to pouring water from a pitcher into a glass? This scale also deals with the climate of the learning situation: should it be cooperative instructor or a power relationship between the instructor and student?

Subscale 4, Management of the Educational Experience, deals with who controls learning. Who makes decisions? Under which conditions, if any, should the student direct the learning? And which methods of teaching-learning should be used? It also looks at the use of resources which should or should not be used in the learning situation.

Evaluation, the fifth Subscale, deals with who in the teaching-learning relationship should evaluate the learning student or teacher and on a program basis what criteria should be used, traditional standards or standards set specifically for the adult program. This also includes who should set up the standards.

Subscale 6, Relationships: Educator-Learner and Among Learners, asks questions which deal with the classroom behavior of students and teachers; i.e., competition, manipulation and separateness of faculty and students in activities. The assumptions Knowles outlines in his model assume the learning task should center on students competing with themselves and attempting to improve their skills.

The distribution of Subscale 1, (Purposes), ranged from a low score of 17 to a high of 45. The median score was 30, the first quartile score was 27.69 and the fourth quartile was 32.46. The general distribution was narrow with a

standard deviation of 4.6. The distribution of Subscale 1, (Purposes), is located in Appendix C.

Subscale 2, (Nature), also represented a narrow distribution with a median score of 23.73, a first quartile of 21.56 and a fourth quartile score of 26.4. The distribution's standard deviation was 3.9. The distribution for Subscale 2, (Nature) is shown in Appendix C.

The distribution of Subscale 3, (Experiences), represents a broader range of scores. The median score was 29.52, with a first quartile score of 25.98 and a fourth quartile score of 32.75. The standard deviation for the Subscale was 5.3. A detailed distribution of this Subscale is shown in Appendix C.

Subscale 4, (Management), represents an even broader range of scores. The median score was 40.33, with a first quartile score of 35.8 and a fourth quartile score of 45.48. The standard deviation for this Subscale was 7.98. Subscale 4's distribution is presented in Appendix C.

Subscale 5, (Evaluation), also has a narrow distribution, with a median score of 17.21 and a first quartile score of 14.81 and a fourth quartile score of 19.12. The standard deviation of Subscale 5 was 3.63. Subscale 5 is presented in Appendix C.

Subscale 6, (Relationships), has a median score of 31.57 with the first and fourth quartile scores of 29.16 and 34.30 respectively. The standard deviation was 4.4. The distribution of Subscale 6 is presented in Appendix C.

Discussion of the Educational Orientation Questionnaire

The overall score distribution is presented in Appendix C. It is, on the individual level, equal to the sum of the six Subscales. The quartile scores were, first 158.63, second or median 171.69 and the fourth 187.25. The standard deviation was 24.29.

Listed in Table VI are the mean scores by department. The ranks for the mean scores by department are listed in Table VII. Table XII (Appendix C) lists the distribution of the total individual scores for the EOQ.

Analysis of Data

The Kruskal-Wallis one-way ANOVA was used to analyze the data. Table VIII presents the Chi-Square values for each Subscale and personal characteristics. The level of significance was .05.

The following Subscales and overall scores showed significant Chi-squares values:

1. All Subscales and the overall score for department.
2. Subscale 5, Evaluation, for highest earned degree.
3. Subscale 5, Evaluation, for sex.
4. Subscale 2, Nature, for percent of teaching load at the graduate level.
5. Subscale 3, Experiences, for the amount of time spent off-campus working on extension/service projects.

TABLE VI

DISTRIBUTION OF SUBSCALE AND TOTAL EOQ MEANS BY DEPARTMENT

Department	Scale 1	2	3	4	5	6	7
College of Arts and Sciences							
Dean's Office	30.50	23.50	32.00	38.00	16.50	30.00	170.50
Microbiology	25.67	25.00	23.67	34.00	14.67	30.00	153.00
Botany	26.33	22.33	24.00	33.66	16.66	30.66	153.66
Art	34.00	23.67	31.66	42.50	17.33	26.33	175.50
Humanities	30.50	25.50	33.75	43.25	15.00	33.25	186.25
Religious Studies	25.33	20.33	23.66	28.00	10.66	27.33	135.33
Philosophy	27.00	23.00	30.50	37.50	16.00	27.00	161.00
Music	28.78	25.00	29.00	42.11	19.88	32.33	177.11
Theater	31.00	22.00	25.00	40.00	16.00	40.00	174.00
Health P.E. Leisure Serv.	31.25	25.00	31.37	46.75	18.87	34.12	187.37
Journalism	31.44	23.56	30.44	42.22	17.55	31.66	176.88
Zoology	30.50	24.00	28.12	40.25	17.37	31.50	171.75
English	28.18	23.09	26.18	40.00	16.45	32.09	166.00
Foreign Language	29.50	24.00	29.25	39.00	18.75	31.25	171.75
Speech	31.33	25.83	29.33	41.83	16.83	33.00	178.16
Speech Pathology	29.33	24.50	27.17	38.66	17.33	33.33	170.33
Computer Science	28.00	25.67	29.33	37.00	12.00	29.66	161.66
Mathematics	27.33	20.67	25.75	35.75	15.50	28.66	153.66
Statistics	30.83	24.33	27.16	39.00	15.50	30.50	167.33
Chemistry	28.89	21.44	28.22	36.88	15.55	29.00	160.00
Geology	29.40	23.60	30.00	36.40	17.20	30.40	167.00
Physics	29.75	21.75	28.75	36.00	14.50	30.00	160.75
Geography	29.50	20.50	26.00	36.00	16.75	32.25	161.00
History	25.00	19.67	28.33	30.66	15.66	32.66	152.00
Political Science	28.50	22.50	26.75	35.25	15.00	28.75	156.75
Sociology	31.71	25.71	31.42	41.42	18.28	32.71	181.28
College of Education							
Dean's Office	00.00	00.00	00.00	00.00	00.00	00.00	000.00
Curriculum & Instruction	33.46	27.61	34.07	46.53	18.92	34.30	194.92
Applied Behavior Studies	36.13	26.87	33.75	50.00	20.12	36.25	203.12
Education Administration	31.85	26.28	34.00	46.28	19.00	35.28	192.71
Psychology	31.18	26.67	31.66	44.08	18.08	33.00	184.66
Occupational & Adult Ed.	32.67	23.55	32.33	46.11	18.55	32.55	185.77

TABLE VII

RANK ORDER OF SUBSCALE AND TOTAL EOQ MEANS BY DEPARTMENT

Department	Scale 1	2	3	4	5	6	7
College of Arts and Sciences							
Dean's Office	17.5	12	26	13	14	9	16
Microbiology	3	22	1.5	4	4	9	3
Botany	4	8	3	3	15	13	4.5
Art	29	16	24.5	24	19.5	1	20
Humanities	30	24	28.5	25	5.5	25	27
Religious Studies	2	2	1.5	1	1	3	1
Philosophy	5	10	21	12	11.5	2	9.5
Music	10	22	15	22	30	19	22
Theater	20	7	4	17.5	11.5	31	19
Health P.E. Leisure Serv.	22	22	22	30	27	27	28
Journalism	24	13	20	23	22	16	21
Zoology	7.5	17.5	11	19	21	15	17.5
English	8	11	7	17.5	13	17	12
Foreign Language	14.5	17.5	16	15.5	26	14	17.5
Speech	23	27	17.5	21	17	23.5	23
Speech Pathology	12	20	9.5	14	19.5	26	15
Computer Science	7	25	17.5	11	2	7	11
Mathematics	6	4	5	6	7.5	4	4.5
Statistics	19	19	9.5	15.5	7.5	12	14
Chemistry	11	5	12	10	9	6	7
Geology	13	15	19	9	18	11	13
Physics	16	6	14	7.5	3	9	8
Geography	14.5	3	6	7.5	16	18	9.5
History	1	1	13	2	10	21	2
Political Science	9	9	8	5	5.5	5	6
Sociology	25	26	23	20	24	22	24
College of Education							
Dean's Office	0	0	0	0	0	0	0
Curriculum & Instruction	28	31	31	29	28	28	30
Applied Behavior Studies	31	30	28.5	31	31	30	31
Education Administration	26	28	30	28	29	29	29
Psychology	21	29	24.5	26	23	25.5	25
Occupational & Adult Ed.	27	14	27	27	25	20	26

TABLE VIII

CHI SQUARE VALUES FOR THE SUBSCALES AND THE TOTAL SCORES BY CHARACTERISTICS

Characteristic	Scale 1	2	3	4	5	6	7
Department	57.20*	60.45*	61.07*	64.87*	49.82*	56.08*	72.98*
Degree	.19	1.01	.40	.25	6.20*	.45	.04
Sex	5.79	1.94	1.07	1.93	10.57*	3.52	4.73
Rank	3.67	2.36	1.10	1.67	4.60	5.09	2.81
% Grad. FTE	22.31	33.79*	28.29	23.30	20.16	23.75	25.49
% Undergrad.	16.32	27.15	28.03	19.11	18.89	22.45	20.85
Ex Off Camp.	13.47	8.31	18.30*	9.15	11.03	7.20	11.80
Ex On Camp.	14.53	13.68	11.46	11.46	5.16	12.09	11.74
Years Exper.	7.35	3.89	8.97*	4.02	5.24	.37	7.10
Grad.Fac.Mem	2.94	2.88	.52	1.08	.27	4.65	1.56
Age	12.94	11.79	6.79	9.67	4.88	2.34	9.02
Tenure	.43	.30	.00	.02	1.05	.26	.10

* significant at $p<.05$

6. Subscale 3, Experiences, and years experience teaching in higher education.

Specifically, the following null hypotheses for all Subscales and the overall EOQ score were not rejected:

H2: There is no significant difference between the graduate faculty membership and undergraduate faculties in their andragogical-pedagogical orientation toward education.

H3: There is no significant difference among the academic ranks of instructional personnel in their andragogical-pedagogical orientation toward education.

H5: There is no significant difference among the ages of instructional personnel in their andragogical-pedagogical orientation toward education.

H7: There is no significant difference between tenured and nontenured faculty in their andragogical-pedagogical orientation toward eduation.

The following null hypotheses in part, or wholly, were rejected:

H1: There is no significant difference among the faculties of the departments in their andragogical-pedagogical orientation toward education.

The null hypothesis was rejected on all Subscales and the overall EOQ. There were significant differences between departments and within the overall EOQ.

Several follow-up procedures were instituted in an effort to discover the departments which where significantly different. Table IX lists the departments on each Subscale and the overall EOQ which fell within the first and fourth quartiles.

A Mann-Whitney U test between the departments which made up the first and fourth quartile was computed. Subscales 2, (Nature), and 5, (Evaluation), and the overall score gave clear significant differences among all departments. All other Subscales showed no significant difference. A t-test between the first and fourth quartiles was also conducted on all Subscales and the overall EOQ. These results are shown in Table X. The Nature and Experiences Subscales and the overall score were significant. One influencial factor on the results may have been the size of the responses from the College of Arts and

Sciences departments. Of the 26 departments only six had return rates within the department which were above 50 percent.

H8: There is no difference among the faculty, when considering highest degree earned, in their andragogical-pedagogical orientation toward education.

When considering the influence of degree on the faculty members' outlook on education, the overall score was not significant although Subscale 5, Evaluation, was. Individuals who held doctorates had a mean score (16.99) lower than masters degree holders who, as a group, had a mean score of 18.35.

H6: There is no significant difference between male and female instructional personnel in their andragogical-pedagogical orientation toward education.

The differences between sex showed on Subscale 5, Evaluation. That is, women (mean 19.00) on this scale perceived themselves as more closely aligned to the andragogical mode of teaching than men (mean 16.90). This trend did not hold for the overall score, however, contrary to Holmes' (1977) findings.

The study and respondent subjects were approximately equal to each other on the basis of sex. The study subjects by sex consisted of approximately 18 percent women and 82 percent men. The respondent group consisted of 16.6 percent women and 81.3 percent men, however the women tended to fall within the low-paradigm departments in Arts and Sciences and

TABLE IX

FIRST AND FOURTH QUARTILE
LISTING OF DEPARTMENTS

E O Q Scale	First Quartile (Pedagogical)	Fourth Quartile (Andragogical)
Purposes of Education (Subscale 1)	History Religious Studies Microbiology Botany Philosophy Mathematics	Curriculum & Instruction Art Humanities Applied Behavorial Studies
Nature of the Learners (Subscale 2)	History Religious Studies Geography Mathematics Chemistry	Psychology Applied Behavioral Studies Curriculum & Instruction Educational Administration & Higher Ed.
Characteristics of Learning Experiences (Subscale 3)	Microbiology Religious Studies Botany Theater Mathematics	Applied Behavioral Studies Humanities Educational Administration & Higher Ed. Curriculum & Instruction

TABLE IX (Continued)

E O Q Scale	First Quartile (Pedagogical)	Fourth Quartile (Andragogical)
Management of Learning Experiences (Subscale 4)	Religious Studies History Botany Microbiology Political Science Mathematics	Occupational & Adult Education Educational Admisistration & Higher Ed. Curriculum & Instruction Health P.E., Leisure Services Applied Behavioral Studies
Evaluation (Subscale 5)	Religious Studies Computer Science Physics Microbiology	Music Applied Behavioral Studies
Relationships: Educator-Learner and Among Learners (Subscale 6)	Art Philosophy Religious Studies Mathematics Political Science Chemistry	Applied Behavioral Studies Educational Administration & Higher Ed. Theater Curriculum & Instruction
Educational Orientation Score (Subscale 7)	Religious Studies Microbiology History Botany Mathematics Political Science	Health P.E., Leisure Services Curriculum & Instruction Educational Administration & Higher Ed. Applied Behavioral Studies

TABLE X

RESULTS OF t-TEST BETWEEN FIRST AND FOURTH QUARTILES

Scale	F VALUE	2-Tail Prob
1. Purposes of Education	1.71	.198
2. Nature of Learners	3.09	.003*
3. Characteristics of Learning Exper.	2.78	.017*
4. Management of Learning Exper.	1.47	.314
5. Evaluation	1.45	.453
6. Relationships	1.68	.144
7. Total Score	2.92	.005*

* significant $p<.05$

in Education. This may account for a portion of the the differences between sex showed on Subscale 5, Evaluation. That is, women (mean 19.00) on this scale perceived themselves as more closely aligned to the andragogical mode of teaching than men (mean 16.90). This trend did not hold for the overall score, however, contrary to Holmes' (1977) findings.

The study and respondent subjects were approximately equal to each other on the basis of sex. The study subjects by sex consisted of approximately 18 percent women and 82 percent men. The respondent group consisted of 16.6 percent women and 81.3 percent men, however the women tended to fall within the low-paradigm departments in Arts and Sciences and in Education. This may account for a portion of the differerence.

H9: There is no difference among the faculty, when considering FTE of teaching undergraduate or graduate courses, in their andragogical-pedagogical orientation toward education.

Faculty who were teaching graduate level courses showed more andragogical tendency on Subscale 2, Nature of the Learner, although not in any perceivable pattern. That is, as the percent of graduate level teaching increased, the mean scores did not necessarily increase.

H4: There is no significant difference among the levels of extension/service work the respondents perform on and off campus and their andragogical-pedagogical orientation toward education.

The amount of work on campus related to extension activities did not prove to be significant, however this may have been a result of a misunderstanding by the faculty of what extension activities were conducted on campus. The amount of off-campus extension/service work did show significant differences in the individual's andragogical-pedagogical orientation. The amount of extension work influenced the faculty members' outlook on Subscale 3, Characteristics of Learning. Again this did not hold for the overall score. When reviewing questions related to extension work, it is important to note that over half the respondents either did not answer the question or said that they spent "0" hours on extension projects.

H10: There is no difference among the faculty, when

considering years experience teaching at the university and college level, in their andragogical-pedagogical orientation toward education.

Subscale 3 also showed significant variation in the faculty members' experience. However, the tendency was as experience increased the scores decreased. The mean for the most experienced group was 25.50, the least experienced group mean was 30.89, and the mean score for over all experience was 29.67.

Summary

In the presentation of the findings the purposes of the research have been met, that is an examination of the disciplines represented by the College of Arts and Science and the College of Education and faculty orientation toward education of their students.

The second objective of this study was to examine the andragogical-pedagogical orientation of the faculty within various personal and professional characteristics. This goal was also met. The research indicated an overall significant difference among departments as related to the andragogical-pedagogical orientation of the faculties. The differences shown in the Kruskal-Wallis one-way ANOVA were on all Subscales as well the overall EOQ score.

Other significant findings included:

1. Subscale 5, Evaluation, faculty with doctorates were significantly different than faculty which held masters

degrees.

2. Subscale 5, Evaluation, women were significantly more andragogical in tendency than men.

3. Subscale 2, Nature, as the percent of teaching load at the graduate level increased the mean scores increased.

4. Subscale 3, Experiences, for the amount of time spent off-campus working on extension/services projects the mean scores increased.

5. Subscale 3, Experiences, as the years experience teaching in higher education increased the mean scores decreased indicating a pedagogical orientation.

Holmes (1977) only reported the overall results, not the Subscale results of his work. The results have shown an overall support of the past findings although not as conclusive.

The results show that:

1. As with Kerwin (1979), age was not a significant factor.

2. Sex was a factor with women being more andragogical than men.

3. While this study did not deal with extension personnel, it did deal with some of the same departments and colleges Holmes (1977) dealt with, namely the sciences, the arts, and education. The populations were somewhat overlapping since the personnel who moved into the extension programs have generally come from the classroom of that discipline and represented their displines. Like Holmes'

study, this study found the sciences (high paradigm) disciplines were more pedagogical than the arts and education.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to examine the orientation of the faculty in the College of Arts and Sciences and the College of Education at Oklahoma State University toward education and how this orientation fit on the andragogical-pedagogical continuum. Toward this goal then, this chapter is presented in two sections, first the summary of the study and second the conclusions, implications and recommendations from the data collected.

Summary

There were three specific objectives of the study: (1) to identify the relationships of the academic disciplines, and how the various subject areas or disciplines rank on the andragogical-pedagogical continuum; (2) to examine the factors of academic rank, age, years teaching experience at the university level, amount of extension/service on-and off-campus work performed by the individual, teaching load for graduate and undergraduate level, sex, degree, tenure, graduate faculty membership and the relation of these variables to the andragogical-pedagogical model; and (3) to compare the findings of this study with two previous studies,

one at the community college level and the other with traditionally defined adult educators.

A literature review revealed a questionnaire developed by one of Knowles' students. The Educational Orientation Questionnaire developed by Hadley (1977) under the supervision of Knowles was used as the data collection instrument for this study.

The survey of literature also consisted of an examination of the assumptions and processes which Knowles (1970) developed under the title of ANDRAGOGY. Also examined was the recent model of adult learning by Cross (1981). In addition to the examination of the conceptual framework, a review of the trends in the population of higher education nationally, in Oklahoma, and at Oklahoma State University was developed. Finally, a brief discussion of relationships between students and faculty was also presented.

The subjects for this study were composed of the teaching faculty in two colleges of Oklahoma State University. The FTE loads for the faculty of the the College of Arts and Sciences and the College of Education were examined. Those who were teaching fall term 1981 with a load of at least 25 percent were sent a survey instrument.

Four hundred five surveys were sent out, 202 were returned, of this seven were not useable for various reasons. Three additional subjects were lost due to resignation during the time between terms and illness.

Data collected were analyzed in three phases. The first

scores on each of six Subscales and an overall score was computed for each respondent. Frequency and percent distributions were computed for each Subscale and overall score as well as the individual characteristics examined.

The second stage of analysis consisted of the departments being ranked by the mean scores for all six Subscales as well as the overall EOQ score. The departmental means were then divided into quartiles with the first quartile defined as pedagogical orientated and the fourth quartile as andragogical oriented. The departments that fell within the first and fourth quartiles were then grouped for a t-test.

The final stage of analysis consisted of performing a series of Kruskal-Wallis one way ANOVA'S on each of the Subscales and characteristics.

The major findings were:

1. A significant difference existed among the departments on all Subscales and the overall score.

2. Subscale 5, Evaluation, faculty with doctorates were significantly different than faculty which held masters degrees.

3. Subscale 5, Evaluation, women were significantly more andragogical in tendency than men.

4. Subscale 2, Nature, as the percent of teaching load at the graduate level increased the mean scores increased.

5. Subscale 3, Experiences, for the amount of time spent off-campus working on extension/service projects the mean scores increased.

6. Subscale 3, Experiences, as the number of years experience teaching in higher education increased the mean scores decreased indicating a pedagogical orientation.

Conclusions

Conclusions from the findings are:

1. The faculty in the high-paradigm departments tend to be more pedagogical than the faculty of the low-paradigm departments. The more pedagogical departments tend to be in the College of Arts and Sciences and tend to be at the undergraduate level.

2. The men on the faculty tend to be more pedagogical than the women. This may however have been because women tended to be from low-paradigm departments.

3. The faculty teaching graduate level courses are more andragogical than faculty teaching undergraduate level courses. The graduate courses tend to allow for the more extensive use of andragogical techniques than undergraduate courses.

4. The faculty working more off-campus hours in extension are more andragogical than those working less hours. The reason for this may lie in the expectations of students who take extension courses, that is they tend to be graduate students and the programs center on in-service or high student interest subjects. Also the faculty are teaching closer to a peer level (at least in the faculty member's mind) than on-campus teaching and allow for teachers to

consciously or unconsciously practice andragogical techniques.

5. The faculty experience is inversely related to the andragogical orientation. As faculty increase in experience they tend to be more pedagogical. The reason for this may be related to the faculty members' experiences with the complexities in the university and the rigidity of the system and an unwillingness to "fight" the system.

6. Faculty members who held doctorates were more pedagogical than faculty who held masters degreees. This may be because as faculty become vested in the system they may become more pedagogical. While age did not appear to be significant, several factors which relate to age were namely degree and experience.

Recommendations

Recommendations for practice are:

1. To develop a clear statement in the mission and goal of each department about the philosophy of the department regarding teaching.

2. To provide institutional workshops for departments in an attempt to make the faculty aware of the trends in the changing population of the student body.

3. To provide institutional workshops for departments in an attempt to make the faculty aware of and to use the principles of andragogy.

4. Workshops for faculty and students to make them

aware of the importance of student-faculty relations in the development of learning.

5. Workshops for students to make them aware of and encourage the use of andragogical concepts for learning.

Recommendations for further study are to conduct:

1. A concentrated study and review of each discipline and its attitudes and teaching practices.

2. A review of Hadley's instrument for updating and clarification of terms. A number of comments were written about the use of "ambiguous" terms. This could have been from the faculty member not reading the instructions and/or not understanding what was read.

3. A study on devising a different set of Likert-type classifications and changing the classes from Agree/-Dissagree to Sometimes/Always.

4. An attempts to identify differences between respondents and non-respondents.

5. A study in which the individuals divide graduate and undergradute in clear classification, that is one response for graduate level instruction and another for undergraduate level instruction.

6. A study in which the participant responds separately for on-and off-campus instruction.

7. A study of students by department. To answer the question: Do pedagogically oriented learners tend to study in pedagogical departments and do andragogically oriented students study in andragogical departments?

8. A longitudinal study to discover a change, if any, over time of the individual's orientation on the andragogical-pedagogical continuums.

Studies in the future which use the questionnaire should concentrate on smaller groups with the researcher contacting each participant by phone or in person to explain the terms and context of the questionnaire.

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APPENDIX A

COVER LETTERS

HUMAN RESOURCES DEVELOPMENT CENTER
SCHOOL OF OCCUPATIONAL and ADULT EDUCATION
College of Education

January 18, 1982

Dear Faculty Member:

The student body of higher education is changing. The population of traditional students, the 18 to 22 year olds, is becoming smaller as increasing numbers of older members of our society are returning to campuses for further education. At Oklahoma State University, among the general student population, the greatest percentage increase in enrollment between Fall, 1976 and Fall, 1981 has been in the students 30 and over (30-39 years old increased 20%, 40 and over increased 18%). It is hypothesized that the philosophic orientation of faculty toward teaching may be related to their success in interacting with an older student body. This study attempts to determine the philosophic basis of faculty in two colleges of OSU.

In order for the results to be representative of the faculty, it is important that each questionnaire be completed and returned. You may be assured of complete confidentiality. Each questionnaire has an identification number so that returns may be checked. All responses will be reported in group statistics only.

If you would like a summary of the results, please return your name and campus address on a separate piece of paper. Please do not put this information on the questionnaire itself.

I would be glad to answer any questions you might have about the questionnaire or study. Please call me at X6275 or write to 406 Classroom Building.

Thank you in advance for your assistance.

Sincerely,

Gordon Eric Jones

Gordon Eric Jones

GEJ/kp

IF YOU HAVE ALREADY RESPONDED TO THIS QUESTIONNAIRE--THANK YOU.

IF YOU HAVE NOT RESPONDED OR HAVE MISPLACED IT--PLEASE HELP BY COMPLETING AND FORWARDING THIS COPY TO ME BY THE 5th OF FEBRUARY.

PLEASE USE THE ATTACHED LABEL ON THE RETURN ENVELOPE.

THANK YOU,

GORDON ERIC JONES

APPENDIX B

EDUCATIONAL ORIENTATION QUESTIONNAIRE

HRDC HUMAN RESOURCES DEVELOPMENT CENTER
SCHOOL OF OCCUPATIONAL and ADULT EDUCATION
College of Education

EDUCATIONAL ORIENTATION QUESTIONNAIRE

Below are statements about education, teaching and learning. These have been chosen to express several different viewpoints.

Please note: in completing this questionnaire keep in mind that the word "student" means those persons you teach during your regular course assignments, and the word "instructor" means yourself. In other words, your answers indicate your educational orientation working with the individuals enrolled in your regular course assignments

For each statement, please put an "X" in one of the five boxes in front of that statement. Choose the box that best indicates your attitude or position (how much you agree or disagree with that statement). The five positions from which to choose are:

SA--I strongly agree with this statement
A---I agree with this statement
U---I'm too uncertain about this statement to agree or disagree
D---I disagree with this statement
SD--I strongly disagree with this statement

SA	A	U	D	SD		
( )	( )	( )	( )	( )	1.	Education should focus on what is sure, reliable, and lasting.
( )	( )	( )	( )	( )	2.	Teaching effectiveness should be measured by students' increase in examination of their own feelings, attitudes, and behaviors.
( )	( )	( )	( )	( )	3.	Students need a strong instructor who can direct their learning.
( )	( )	( )	( )	( )	4.	It's hard to keep people from learning.
( )	( )	( )	( )	( )	5.	Learning is an intellectual process of understanding ideas (concepts) and acquiring skills.
( )	( )	( )	( )	( )	6.	Effective learning occurs most often when students actively participate in deciding what is to be learned and how.
( )	( )	( )	( )	( )	7.	Giving examinations regularly motivates students to learn.
( )	( )	( )	( )	( )	8.	Organization of the content and sequence of learning activities should grow out of students' needs, with their participation.
( )	( )	( )	( )	( )	9.	It should be the instructor's responsibility to evaluate students' achievements and assign grades.
( )	( )	( )	( )	( )	10.	The best sources of ideas for improving teaching and education are the students.
( )	( )	( )	( )	( )	11.	Competition among students encourages keen learning.
( )	( )	( )	( )	( )	12.	An instructor by his behavior should show each student that his abilities and experiences are respected and valued.

SA	A	U	D	SD		
( )	( )	( )	( )	( )	13.	An instructor should help students accept values of our society.
( )	( )	( )	( )	( )	14.	To see education as transmittal of knowledge is obsolete.
( )	( )	( )	( )	( )	15.	Students tend to be much alike.
( )	( )	( )	( )	( )	16.	It is an instructor's responsibility to motivate students to learn what they ought to learn.
( )	( )	( )	( )	( )	17.	Clear explanation by the instructor is essential for effective learning.
( )	( )	( )	( )	( )	18.	An instructor's responsibility is helping students choose and develop their own directions for learning.
( )	( )	( )	( )	( )	19.	A good instructor makes the decisions about what should be taught, when, and how.
( )	( )	( )	( )	( )	20.	An instructor seldom needs to know the average students as separate individuals.
( )	( )	( )	( )	( )	21.	An instructor should not change his expressed decisions without unusually good reasons.
( )	( )	( )	( )	( )	22.	Emphasizing efficiency in teaching often blocks development of an effective learning climate.
( )	( )	( )	( )	( )	23.	An adult education program should be evaluated by the same standards as other accredited programs of education.
( )	( )	( )	( )	( )	24.	Evaluating his achievement should be primarily a responsibility of the student since he has the necessary data.
( )	( )	( )	( )	( )	25.	Competition among students develops conceit, selfishness, and envy.
( )	( )	( )	( )	( )	26.	An instructor should discuss his blunders and learnings with students.
( )	( )	( )	( )	( )	27.	An instructor should be sure his questions steer students toward truth.
( )	( )	( )	( )	( )	28.	Educational objectives should define changes in behavior which the student desires and the teacher helps him undertake.
( )	( )	( )	( )	( )	29.	Most students are able to keep their emotions under good control.
( )	( )	( )	( )	( )	30.	Students are quite competent to choose and carry out their own projects for learning.
( )	( )	( )	( )	( )	31.	An instructor should help students free themselves of fixed habits and patterns of thought that block their growth.
( )	( )	( )	( )	( )	32.	The major qualifications of an instructor are grasp of subject matter and ability to explain (demonstrate) it clearly and interestingly.
( )	( )	( )	( )	( )	33.	It is better for students to create their own learning activities and materials than for the teacher to provide them.
( )	( )	( )	( )	( )	34.	An instructor should require assignments and grade them.
( )	( )	( )	( )	( )	35.	Use of a topical outline course plan often blocks an instructor's perception of students' needs.
( )	( )	( )	( )	( )	36.	An adult education program should be evaluated only in terms of its own objectives.

SA	A	U	D	SD		
( )	( )	( )	( )	( )	37.	Competition among students develops courage, determination, and industry.
( )	( )	( )	( )	( )	38.	An instructor should provide opportunities for warm relationships with students and among students.
( )	( )	( )	( )	( )	39.	Education should lead people to goals that result in orderly, reasonable lives.
( )	( )	( )	( )	( )	40.	Education should increase students' critical evaluation of our society and courage to try new, creative, satisfying behavior.
( )	( )	( )	( )	( )	41.	Often students don't know what is best for them.
( )	( )	( )	( )	( )	42.	When an instructor makes a mistake, he is likely to lose students' respect.
( )	( )	( )	( )	( )	43.	Maturity depends more on continuing growth in self-understanding than on growth in knowledge.
( )	( )	( )	( )	( )	44.	Students frequently "get off the subject" either intentionally or unintentionally.
( )	( )	( )	( )	( )	45.	Education programs which tell what should be learned and how rarely help students learn.
( )	( )	( )	( )	( )	46.	Letting students determine learning objectives wastes too much time in irrelevant discussion.
( )	( )	( )	( )	( )	47.	The primary concern of an instructor should be the immediate needs of the student.
( )	( )	( )	( )	( )	48.	Grades should reflect a students' grasp of the subject or skill taught.
( )	( )	( )	( )	( )	49.	Assignments by a teacher tend to restrict students' significant learnings.
( )	( )	( )	( )	( )	50.	Tests prepared by students are usually just as effective as those prepared by an instructor.
( )	( )	( )	( )	( )	51.	The goals a student sets for himself are the basis of effective learning not the instructor's goals.
( )	( )	( )	( )	( )	52.	An instructor's mission is to help each student learn what he decides will aid him in achieving his personal goals.
( )	( )	( )	( )	( )	53.	If an instructor isn't careful, students take advantage.
( )	( )	( )	( )	( )	54.	Considering the possible effects on students, an instructor should usually play it safe rather than take chances.
( )	( )	( )	( )	( )	55.	Without a cooperative climate encouraging students to risk and experiment, significant learning is unlikely.
( )	( )	( )	( )	( )	56.	An instructor who does not plan the work for a class carefully is taking advantage of the students' ignorance.
( )	( )	( )	( )	( )	57.	To use students' experiences and resources for learning requires group activities rather than such methods as lectures.
( )	( )	( )	( )	( )	58.	It is a good rule in teaching to keep relationships with students impersonal.
( )	( )	( )	( )	( )	59.	Planning units of work should be done by students and teacher together.
( )	( )	( )	( )	( )	60.	Good teaching is systematic--set up a clear plan and schedule and stick to it.

Please check or complete the most appropriate responses to the following questions.

/____/ 61 What is your current Academic Rank:

_____ Professor
_____ Associate Professor
_____ Assistant Professor
_____ Other (please specify) _____

/____/ 62-66 To which department or school are you assigned: _____

/____/ 67 What is your highest degree earned:

_____ Doctorate
_____ Master's
_____ Other (please specify) _____

/__/__/ 68 69 What percent of your current assignment do you teach:

_____ Undergraduate courses (1000, 2000, 3000 and 4000)
_____ Graduate courses (5000 and 6000)

/____/ 72 Graduate Faculty Membership:

_____ A full member
_____ An Associate Member
_____ Not a member

/____/ 73 How many years experience have you had teaching at the college or university level (not including this year): _____

/____/ 74 Are you tenured:

_____ Yes
_____ No

/____/ 75 Your age at your last birthday:

_____

/__//__/ 76 77 About how many hours per month do you average working in OSU services/ extension activities:

_____ Hours on-campus
_____ Hours off-campus

APPENDIX C

TABLES OF SUBSCALE DISTRIBUTIONS AND OVERALL SCORES

TABLE XI

DISTRIBUTION OF SUBSCALE 1,
PURPOSES OF EDUCATION

Score	Freq.	Cuml. Freq.	%	%tile
17	1	0	2.6	.26
20	2	3	2.6	1.04
22	3	6	1.6	2.33
23	2	8	.5	3.63
24	5	13	.5	5.44
25	9	22	.5	9.07
26	14	36	.5	15.03
27	9	45	.5	20.98
28	17	62	1.0	27.72
29	22	84	1.6	37.82
30	21	105	1.0	48.96
31	22	127	2.6	60.10
32	18	145	4.7	70.47
33	6	151	7.3	76.68
34	7	158	4.7	80.05
35	10	168	8.8	84.46
36	3	171	11.4	87.82
37	4	175	10.9	89.64
38	5	180	11.4	91.97
39	5	185	9.3	94.56
40	3	188	3.1	96.63
41	1	189	3.6	97.67
42	1	190	5.2	98.19
43	1	191	1.6	98.70
44	1	192	2.1	99.22
45	1	193	.5	99.74

TABLE XII

DISTRIBUTION OF SUBSCALE 2,
NATURE OF THE LEARNER

Score	Freq.	Cuml. Freq.	%	%tile
16	1	1	.5	.26
17	2	3	1.0	1.04
18	3	6	1.6	2.33
19	14	20	7.3	6.74
20	16	36	8.3	14.51
21	11	47	5.7	21.50
22	21	68	10.9	29.79
23	23	91	11.9	41.19
24	24	115	12.4	53.37
25	14	129	7.3	63.21
26	17	146	8.8	71.24
27	13	159	6.4	79.02
28	5	164	2.6	83.68
29	5	169	2.6	86.27
30	10	179	5.2	90.16
31	5	184	2.6	94.04
32	5	189	2.6	96.63
33	1	190	.5	98.19
34	1	191	.5	98.70
35	1	192	.5	99.22
36	1	193	.5	99.74

TABLE XIII

DISTRIBUTION OF SUBSCALE 3, CHARACTERISTICS OF LEARNING EXPERIENCES

Score	Freq.	Cuml. Freq.	%	%tile
18	1	1	.5	.26
19	3	4	1.6	1.30
20	3	7	1.6	2.85
21	1	8	.5	3.89
22	4	12	2.1	5.18
23	11	23	5.7	9.07
24	9	32	4.7	14.25
25	11	43	5.7	19.43
26	12	55	6.2	25.39
27	15	70	7.8	32.38
28	11	81	5.7	39.12
29	15	96	7.8	45.85
30	21	117	10.9	55.18
31	9	126	4.7	62.95
32	15	141	7.8	69.17
33	10	151	5.2	75.65
34	11	162	5.7	81.09
35	6	168	3.1	85.49
36	4	172	2.1	88.08
37	5	177	2.6	90.41
38	7	184	3.6	93.52
39	1	185	.5	95.60
40	2	187	1.0	96.37
41	1	188	.5	97.15
42	1	189	.5	97.67
43	2	191	1.0	98.45
45	1	191	1.0	99.22
48	1	193	.5	99.74

TABLE XIV

DISTRIBUTION OF SUBSCALE 4, MANAGEMENT OF LEARNING EXPERIENCES

Score	Freq.	Cuml. Freq.	%	%tile
20	2	2	1.0	.52
24	2	4	1.0	1.55
25	1	5	.5	2.33
26	1	6	.5	2.85
27	1	7	.5	3.37
28	3	10	1.6	4.40
29	1	11	.5	5.44
30	4	15	2.1	6.74
31	2	17	1.0	8.29
32	7	24	3.6	10.62
33	7	31	3.6	14.25
34	8	39	4.1	18.13
35	7	46	3.6	22.02
36	11	57	5.7	26.68
37	7	64	3.6	31.35
38	12	76	6.2	36.27
39	8	84	4.1	41.45
40	15	99	7.8	47.41
41	8	107	4.1	53.37
42	12	119	6.2	58.55
43	7	126	3.6	63.47
44	8	134	4.1	67.36
45	11	145	5.7	72.28
46	5	150	2.6	76.42
47	9	159	4.7	77.46
48	2	161	1.0	83.94
49	5	166	2.6	84.72
50	5	171	2.6	87.31
51	1	172	.5	88.86
52	4	176	2.1	90.16
53	3	179	1.6	91.97
54	5	184	2.6	94.04
55	1	185	.5	95.60
56	2	187	1.0	96.37
57	1	188	.5	97.15
59	2	190	1.0	97.93
62	1	191	.5	98.70
64	1	192	.5	99.22
66	1	193	.5	99.74

TABLE XV

DISTRIBUTION OF SUBSCALE 5,
EVALUATION

Score	Freq.	Cuml. Freq.	%	%tile
8	2	2	1.0	.52
9	2	4	1.0	1.55
10	2	6	1.0	2.59
11	4	10	2.1	4.15
12	5	15	2.6	6.48
13	13	28	6.7	11.14
14	15	43	7.8	18.39
15	17	60	8.8	26.68
16	18	78	9.3	35.75
17	26	104	13.5	47.15
18	24	128	12.4	72.54
19	27	155	14.0	73.32
20	10	165	5.2	82.40
21	6	171	3.1	87.05
22	7	178	3.6	90.41
23	5	183	2.6	93.52
24	1	184	.5	95.08
25	5	189	2.6	96.63
26	2	191	1.0	98.45
27	1	192	.5	99.22
29	1	193	.5	99.74

TABLE XVI

DISTRIBUTION OF SUBSCALE 6, RELATIONSHIPS: EDUCATOR-LEARNER AND AMONG LEARNERS

Score	Freq.	Cuml. Freq.	%	%tile
21	1	1	.5	.26
22	1	2	.5	.78
23	1	3	.5	1.30
24	6	9	3.1	3.11
25	6	15	3.1	6.22
26	4	19	2.1	8.81
27	6	25	3.1	11.40
28	14	39	7.3	16.58
29	14	53	7.3	23.83
30	30	83	15.5	35.23
31	12	95	6.2	46.11
32	21	116	10.9	54.66
33	14	130	7.3	63.73
34	17	147	8.8	71.76
35	11	158	5.7	79.02
36	7	165	3.6	83.68
37	7	172	3.6	87.31
38	4	176	2.1	90.16
39	2	178	1.0	91.71
40	6	184	3.1	93.78
41	5	189	2.6	96.63
42	3	192	1.6	98.70
43	1	193	.5	99.79

TABLE XVII

DISTRIBUTION OF SCORES FOR TOTAL EOQ

Score	Freq.	Cuml. Freq.	%	%tile
108	1	1	.5	.26
124	1	2	.5	.78
128	1	3	.5	1.30
153	1	4	.5	1.81
134	2	6	1.0	2.59
135	1	7	.5	3.37
138	2	9	1.0	4.15
143	1	10	.5	4.92
144	2	12	1.0	5.70
145	2	14	1.0	6.74
146	2	16	1.0	7.77
147	1	17	.5	8.55
148	6	23	3.1	10.36
149	2	25	1.0	12.44
150	2	27	1.0	13.47
151	1	28	.5	14.25
152	8	36	4.1	16.58
153	6	42	3.1	20.21
155	1	43	.5	22.02
156	3	46	1.6	23.06
157	1	47	.5	24.09
158	1	48	.5	24.61
159	2	50	1.0	25.39
160	3	53	1.6	25.91
161	4	57	2.1	27.47
162	6	63	3.1	29.54
163	3	66	1.6	32.65
164	2	68	1.0	34.20
165	5	73	2.6	35.24
166	4	77	2.1	37.83
167	1	78	.5	39.90
168	4	82	2.1	40.42
169	7	89	3.6	42.50
170	1	90	.5	46.12
171	5	95	2.6	46.64
172	8	103	4.1	49.24
173	3	106	1.6	53.37
174	3	109	1.6	54.93
175	7	116	3.6	56.49
176	3	119	1.6	60.11
177	4	123	2.1	61.66
178	1	124	.5	63.73
179	2	126	1.0	64.25
180	1	127	.5	65.29

TABLE XVII (Continued)

Score	Freq	Cuml. Freq.	%	%tile
181	3	130	1.6	65.81
182	3	133	1.6	67.36
183	3	136	1.6	68.92
184	5	141	2.6	70.47
185	2	143	1.0	73.06
186	2	145	1.0	74.10
188	1	146	.5	75.13
189	2	148	1.0	76.65
190	2	150	1.0	76.69
191	3	153	1.6	77.72
192	1	154	.5	79.28
193	3	157	1.6	79.80
195	2	159	1.0	81.35
196	1	160	.5	82.39
197	3	163	1.6	82.91
198	3	166	1.6	84.46
199	1	167	.5	86.01
200	1	168	.5	86.53
201	1	169	.5	87.05
203	2	171	1.0	87.57
204	1	172	.5	88.60
205	1	173	.5	89.12
206	1	174	.5	89.64
207	1	175	.5	90.16
210	1	176	.5	90.68
211	1	177	.5	91.19
212	2	179	1.0	91.71
213	1	180	.5	92.75
215	1	181	.5	93.27
216	1	182	.5	93.78
219	1	183	.5	94.30
220	1	184	.5	94.82
221	1	185	.5	95.34
222	1	186	.5	95.86
231	2	188	1.0	96.38
233	1	189	.5	97.41
241	1	190	.5	97.93
244	1	191	.5	98.45
254	2	193	1.0	98.97

VITA

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