A COMPARATIVE STUDY OF THE ANDRAGOGICAL-PEDAGOGICAL ORIENTATION OF MILITARY AND CIVILIAN PERSONNEL

By

ARTHUR CARL CHRISTIAN

Bachelor of Business Administration
Central State University
Edmond, Oklahoma
1976

Master of Arts
Oklahoma State University
Stillwater, Oklahoma
1978

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
December, 1982

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AND CIVILIAN PERSONNEL

Thesis Approved:

Wayne B. James
Thesis Adviser

Carl Hall

John F. Baird

Henry G. Davis

Norman N. Durham
Dean of the Graduate College

ACKNOWLEDGMENTS

Sincere gratitude is expressed to Dr. Waynne James, Chairperson of the Doctoral committee and director of this study. Her indispensable guidance and support throughout the doctoral program are acknowledged with appreciation. Gratitude is also expressed to the members of the doctoral committee, Dr. John Baird, Dr. Jerry Davis, and Dr. Carl Hall. I am forever grateful to Dr. Carl Hall for his inspiration some years ago and support since.

The writer also wishes to express thanks to Dr. Eric Jones for playing the role as peer adviser and encourager throughout this study, and to my family, friends, and colleagues. Last, but not least, a special thanks goes to my wife, Linda, for her support, dedication, understanding and sacrifices, during this major project.

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CHAPTER I

INTRODUCTION

> Most of the important developments of an adult education nature that have taken place throughout this country's maturation have also helped to formulate a philosophy by which many adult educators operate today. This philosophy centers on the idea that each adult is a unique individual possessing unlimited potential. Thus the role of the adult educator becomes one of helping individuals discover their own needs and of providing a learning environment where learners can meet their needs through such techniques as Great Books discussion, study groups and the use of libraries and other community resources (Hiemstra, 1976, p. 20).

An important part of this country's maturation has been improved technology. This has meant change and obsolescence to many people. Industry has turned to in-service training to prevent chaos in the work place. New skills are required of the employees and those who train the employees. In many companies the training field has become known as Human Resource Development (HRD). Many of these HRD specialists and employees seek education away from the work place to improve themselves both professionally and personally. Technology has required that they update their skills, and has led to fewer hours in the work place, or, more leisure hours. Much of this leisure time is spent in an educational environment.

As Americans have returned to the educational environment to develop some interest, skill or latent potential, they have often encountered adult educators who were trained to teach children. Demand for adult educators has caused these teachers of children to move into

the adult education field. These educators were not prepared to cope with the differences between the adolescent and adult student. Hiemstra (1976, p. 12) stated, "the expanding of educational abilities . . . will require new commitments on the part of teachers in training, experienced teachers through in-service training, and teacher training institutions."

An examination of the literature revealed that most adult educators agree that there is a difference between young learners and adult learners (Elias, 1979; Houle, 1975; Kidd, 1959; Knowles, 1978). Some felt that there was no difference in the methodologies used to teach the adult and young student (Elias, 1979; Houle, 1975). The reviewed literature established a definite trend in the need for andragogy in the adult learning environment.

Most adults resent being treated as children. Yet most educators have been trained in the skills of pedagogy, "the art and science of teaching children" (Knowles, 1978, p. 53). Many adults that returned to the learning environment were treated as children and became dropouts in the sense that they did not return for more education. These adults had experienced life roles and did not wish to be taught what they already knew. They wanted to share experiences and knowledge. Gordon (1977, p. 91) stated, "Much more learning occurs when the learner is active in the process rather than passive". He followed with the idea that many teachers were active senders, and their learners were passive receivers.

This approach of active learning in the adult learning environment has brought about new ideas of helping adults learn. An environment where learning could take place needed to be established. Knowles

(1978) introduced the term andragogy into American literature and presented his theory of andragogy as a needed approach to aid adults in the learning situation. The environment was very important if adult education was to be meaningful.

Statement of the Problem

No research could be found that addressed the military or civilian student's preference for an andragogical or pedagogical orientation, and whether the preference would differ between the military and civilian students. Some educators instruct both military and civilian students, and often use the same teaching techniques and methodologies in each class or in mixed classes of both military and civilians. An understanding of the students' educational orientation as andragogical or pedagogical in military and civilian or voluntary education should help instructors better plan their teaching techniques.

Purpose of the Study

This study was designed to investigate any discernable differences between the student's perceived educational orientation as andragogical or pedagogical in military and civilian education programs conducted on, by, or for Tinker Air Force Base (TAFB). The purpose of the study was two-fold. First an instrument had to be developed, validated and reliability tested that would measure the student's preference for an andragogical or pedagogical environment. This instrument, titled the Student Orientation Questionnaire (SOQ), was used to gather data for the second purpose of the study which was to compare the educational orientation of: (1) military personnel in mandatory training;

(2) government employees in mandatory training; (3) a mixture of these groups in voluntary education.

Research Questions

The questions to be answered by this study are:

1. Does the military person in mandatory management training prefer an andragogical or pedagogical environment compared to civilian and mixed groups?
2. Does the civilian in mandatory management training prefer an andragogical or pedagogical environment compared to military and mixed groups?
3. Does the mixture of these groups in voluntary college classes prefer an andragogical or pedagogical environment compared to the military and civilian groups?

Limitations

Several limitations were placed on this study. They were as follows:

1. Study participants were limited to three identified groups from Tinker AFB. Group 1 was composed of military personnel in mandatory in-service training. Group 2 was composed of government employees in mandatory in-service training. Group 3 was a mixture of military personnel and government employees in voluntary college classes conducted by Oklahoma State University at Tinker AFB.
2. Measurement of the participant's preference for an andrgogical or pedagogical orientation was limited to the Student

Orientation Questionnaire.

3. Administration of the survey was limited to six months by the design of the study.
4. The sample size was limited to 100 for each group due to the number of classes available to the researcher.
5. Age, sex and educational level were not taken into consideration in this study.

Assumptions

This study assumed that:

1. Adult learners had differences in preferences, attitudes and beliefs about the adult learning environment.
2. These differences in preferences, attitudes and beliefs were measureable.
3. The Student Orientation Questionnaire (SOQ) measured these preferences, attitudes and beliefs as andragogically oriented or pedagogically oriented.
4. The adult learner responded to the SOQ with true attitudes and beliefs about the learning environment.
5. The surveyed sample would be representative of other federal installations where mandatory in-service or voluntary adult education takes place.

Definitions

It was necessary to define some terms used in the study to aid in the correct interpretation of the study. Terms and definitions as used in this research are as follows:

Adult Education - The process by which men and women seek to improve themselves or their society by increasing their skills, their knowledge, or their sensitiveness. Any process by which individuals, groups or institutions try to help men and women improve in these ways (Houle, 1972, p. 229).

Adult Student -. . . any person who has quit or finished formal school and is engaged in full time adult responsibilities and continues his education for whatever reasons he may feel the need (Berdrew, 1968, p.9).

Andragogical Orientation -The orientation of an andragogical adult educator stresses free choice of alternative goals for learning, with interdependent decision and action among students and between students and educator as the basis of effective learning. The educator perceives his relationship to students as that of helper, resource, consultant and co-learner (Hadley, 1977, p. 7).

Andragogy -The art and science of helping adults learn (Knowles, 1978).

Civilian Employee -A career or career conditional, full-time federal employee (civil servant).

Motivational Environment -An environment established so the individual can release the inner-drive to satisfy needs.

Mandatory Training -Training required as a condition of employment and promotion.

Military Employee -Active duty Air Force personnel.

Pedagogical Orientation -The orientation of a pedagogic adult educator emphasizes learner's acquiring knowledge and skills that the educator judges as true and effective. The personal judgement of the educator is based on tradition, accepted views and practices, or current knowledge of the physical and social universe. . . . 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 (Hadley, 1977, p. 8).

Pedagogy -The art and science of teaching children (Knowles, 1978).

Voluntary Education -Adults seeking self-development through

college courses during non-work hours and usually at the adult's expense.

Organization of Study

Chapter I introduced the study and included the statement of the problem, purpose of the study, research questions to be answered, limitations, assumptions and definitions of terms to be used in the study.

Chapter II reviewed the literature of adult education that was deemed pertinent to an andragogical or pedagogical orientation. This includes techniques, methods, assumptions, designs and principles of andragogy and pedagogy.

The design of the study and methods used in conducting the research were discussed in Chapter III. The results of the study were reported in Chapter IV. In Chapter V the summary and conclusions were presented and recommendations were suggested for further research and practices.

CHAPTER II

REVIEW OF RELATED LITERATURE

Key (1974, p. 72) stated that, "One of the main purposes of the review of the literature is to provide a basis for the research questions, objectives, or hypotheses." This review was begun with that in mind. The reviewed literature indicated many studies have been conducted on learning, behavior, and motivation theories. Few studies have been conducted on andragogy versus pedagogy as a learning theory; none could be found on the student's orientation as andragogical or pedagogical.

Thus, the literature reviewed in this chapter was selected on the basis of its relevance to the problem under study--that of andragogy and pedagogy. The literature dealt with andragogy as a learning theory in adult education, and some challenges to the theory by noted educators. The literature dealt with pedagogy as a teaching theory and was mostly related to formal educational techniques used in teaching children. Literature related to civilian employees as learners and military personnel as learners was also reviewed.

Children as Learners

Some educators have stated that there is no difference in the system used to educate adults and youth, just different techniques. These educators have noted that there were differences between adults and

youth. Houle (1972) felt that education was a single fundamental process essentially the same for adults and children with consideration of their different life stages.

Knowles (1978) strongly felt the need for a different theory. He stated:

> I propose that our traditional education system is progressively regressive. The best education--the procedures for helping people learn which are most congruent with what we know about the learning process--takes place in the nursery school and kindergarten, and it tends to get progressively worse in climbing up the educational ladder, reaching its nadir in college. This is because the forces at work on learners from about the second grade on have very little to do with learning. Most of them have to do with achieving--passing tests, scoring high on SATs, getting into college (or graduate school), or qualifying for a job (p. 52).

This statement indicated Knowles' concern not only for adult education, but for education in general. He divided the methods into content theory and process theory and, in essence, labeled content theory as pedagogical and labeled process theory as andragogical. He noted that pedagogy began in the Middle Ages when children's education became organized. Adult education came to be labeled as pagen and was forbidden. The methodologies of pedagogy appear to be based upon techniques used to develop children into obedient, faithful and efficient servants of the church (Knowles, 1978).

Teacher education in the United States was not prevelant until after the turn of the century. Teacher education was not formalized until the normal schools were transformed into four-year degree-granting teacher colleges. Teachers trained in these colleges were prepared to teach adolescents in secondary schools. The curriculum of the secondary schools at the beginning of this century were to be progressive discipline studies in five areas:

1. Command of the student's mother tongue.

2. Mathematics, from simple counting to geometry and possibly calculus.

3. Science.

4. History.

5. Master of one foreign language (Bestar, 1955).

This progressive educational scheme required teachers highly trained in the fundamental disciplines they were to teach.

According to Woodring (1965):

> Today, there is widespread agreement that any sound program for teachers education must include a substantial program of general or liberal education, . . .which, in the case of the secondary school teacher should be provided by a strong academic major in the undergraduate level plus some graduate work in an academic discipline; a knowledge of the contributions of philosophy, history, psychology, and the other social and behavioral sciences to an understanding of the place of the school in the social order and the process of learning . . . (p. 318).

According to Bestar (1955), the Biennial Survey of Education in the United States (1948-1950) showed a decline in enrollment in most of the intellectual disciplines of math, physics and foreign language. This was deemed a turn toward more functional education. Therefore education became progressive.

Functional education meant preparing students with the essentials necessary to live in their society. The leading exponent of the essentialist doctrine was Bagley, who felt the main purpose of education was to teach children the things necessary for life. The essentialist wanted "mental discipline", and put effort above interests (Macropeadia, 1975).

Other proponents of traditional or functional education were Hutchins and Alder. Both were proponents of humanist or liberal education.

They wanted education fixed in content and aim. Hutchins wanted a return to the cultivation of the intellect. He felt that all fit children between 16 and 20 should be given the same education.

These ideas were related to the term pedagogy, since the concern is educating the youth of our society. Pedagogy assumes that a child enters school with little or no ability in written expression. Pedagogy was designed to develop written expression and develop a capability of learning much from human culture (Macropaedia, 1975). Education of the young in modern times has become the organized preparation of both their personal development and their subsequent social and economic roles in society (Macropaedia, 1975).

According to The American Heritage Dictionary (1971), a "pedagogue" "is a school teacher; educator. One who instructs in a pedantic or dogmatic manner". A pedantic is defined as, "one who pays undue attention to book learning and formal rules without having an understanding or experience of practical affairs; a doctrinaire." With these definitions it is understandable why secondary educators have often used methodologies that had emphasis upon imitation, obedience, repetition, drill and control. Schools therefore develop skills in mechanical and repetitive activities at the lower end of the student potential (Macropaedia, 1975).

Lindeman (1926) stated:

> Conventional education has somehow become enslaved to a false premise: Knowledge is conceived to be a precipitation, a sediment of the experiences of others; it is neatly divided into subjects which in turn are parceled out to students, not because students express eagerness or interest, but because the subjects fit into a traditional scheme--so much mathematics, so much history, so much language, et cetera, and above all so much regard for disciplinary values as to make even the study of interesting subjects an uninteresting task (p. 173).

The secondary schools followed closely Lindeman's conventional education. By teaching different curricula they prepared students for terminal degrees at the secondary level and college entry. In most cases the secondary schools have selected methodologies from the following four methodologies as classified by Thomas (Macropaedia, 1975).

1. Memorizing

   A. lecture, recitation, examination
   B. teacher dominated
   C. fear motivated students

2. Training

   A. teacher model
   B. teacher conducted drills
   C. teacher supervised assignments

3. Developing intellect

   A. lectures
   B. demonstrations
   C. questioning
   D. debates
   E. teacher dominated

4. Problem-solving

   A. Emphasize experiences to provide skills and attitudes to solve problems.
   B. Extra class activities are vital to reinforce problem solving skills.
      Note: According to Thomas only a few schools, mostly elementary, have used the problem-solving method.

The first three methods classified by Thomas are closely related to the conventional education and discipline of which Lindeman (1926) spoke. Lindeman (1926) went on to say:

> Many educators have come to realize that most of their subject-matter disappears from the minds of students shortly after graduation, fall back upon the consolation that at least students have been disciplined--they will know how to find knowledge even if they do not possess it (p. 176).

Liveright (1964) stated that the American education system was

designed to prepare adolescents for adult roles. Social change and obsolescence have placed the current generation of adults into a group that will manage a culture different in kind than the one taught to them. The consequences will be well educated youth today; obsolete man tomorrow.

> The consequences of this sudden turn in the tide of civilization is clear; a society that makes its educational investment almost entirely in children and youth is on the way to becoming obsolete and is reducing its chances for survival (p. V).

Adults As Learners

The first modern theory of adult education that was uniquely American was presented in 1886 by Vincent's The Chatauqua Movement. According to Stubblefield (1981), the Chatauqua Movement recognized that learning should be a life-long experience and that adulthood was a unique time for learning. The elements of the Chatauqua theory of adult education were (1) adults can learn, (2) education should be extended beyond formal school years, (3) life is a school, (4) agencies should cooperate in promoting adult learning, (5) education should bring adults into contact with current thoughts on scientific and social issues. An interview with Smith (1981), who participated in the movement in the 1930's at Chatauqua, New York, revealed that even as a youngster he was highly motivated by the adult approach to education. Smith stated that even though the movement was for adults, many young people came and learned from the many speakers and educators that were part of the Chatauqua. This type of education spread throughout the United States.

The adult education movement continues today, but with much debate over the need for a theory of teaching adults. Knowles (1978) compares

the assumptions and design of pedagogy and andragogy (Figure 1). From this comparison and his definition of pedagogy as ". . . the art and science of teaching children", and andragogy as ". . . the art and science of helping adults learn" (p. 54), it seemed that two theories of teaching were necessary.

Elias (1979) stated that the assumptions of andragogy were an adequate basis for distinguishing between the teaching of adults and children. Elias felt that the unity between teaching of adults and children was necessary if their education was to advance. He agreed that children and adults are different, but denied that they were different in the fundamental educational process. He did not accept Knowles' assumptions that adults are motivated to learn because of self-concept, curiosity and internal incentives. According to Knowles (1978), maturity brings a change in self-concept, it changes from dependency to self-directedness. The adults' experiences are a resource for learning. The adult is problem centered instead of subject centered. The adults' desire to learn is developmental with a need for immediate application.

Houle (1972) felt that education was fundamentally the same wherever it occured. Others (Lindeman, 1929; Kidd, 1959; Knowles, 1978) assert that it dealt with concerns such as the nature of learners, the goals sought, etc. Houle concluded that the essentials of the educational process remain the same regardless of life stages, and that the basic design of learning is identical wherever and whenever it occurs.

According to Hiemstra (1976), the adult learner is seeking education at a rate never tabulated before by census bureaus and other agencies that compile educational enrollment figures. This increased

ASSUMPTIONS		
	Pedagogy	Andragogy
Self-concept	Dependency	Increasing self-directiveness
Experience	Of little worth	Learners are a rich resource for learning
Readiness	Biological development social pressure	Developmental tasks of social roles
Time Perspective	Postponed application	Immediacy of application
Orientation to Learning	Subject centered	Problem centered

DESIGN ELEMENTS		
	Pedagogy	Andragogy
Climate	Authority-oriented Formal Competitive	Mutually Respectful Collaborative Informal
Planning	By teacher	Mechanism for mutual planning
Diagnosis of needs	By teacher	Mutual self-diagnosis
Formulation of objectives	By teacher	Mutual negotiation
Design	Logic of the subject matter Content units	Sequenced in terms of readiness Problem Units
Activities	Transmittal techniques	Experiential
Evaluation	By teacher	

Source: Malcolm Knowles, The Adult Learner: the Neglected Species (1978).

Figure 1. Andragogy and Pedagogy Assumptions and Design Eleme

number of adults entering into educational activities has caused educators to pay attention to the uniqueness of adult learners in regards to learning styles and self-directed learning. Hiemstra felt that the most important characteristic of the adult was his self. ". . .to be adult means to be independent, to possess a certain amount of self-motivation, and to be capable of decisions about life and its problems" (p. 33). Another characteristic Hiemstra found important was the wide and varied accumulation of experiences with life that each adult had experienced. An understanding of the uniqueness of the adult was deemed necessary to respond to the needs of the adult learner. In later chapters he addressed the need for a theoretical base for adult education, and noted that most research had concentrated on curriculm design and leadership skills needed for K-12 and colleges.

Zemke (1981) listed 30 things known about adult learning, these were broken into three divisions:

1. Things we know about adult learners and motivation.
2. Things we know about designing curriculm for adults.
3. Things we know about working with adults in the classroom.

About motivation to learn, Zemke stated:

> Adult learners can't be threatened, coerced or tricked into learning something new. Birch rods and gold stars have minimum impact. Adults can be ordered into a classroom and prodded into a seat, but they cannot be forced to learn. Though trainers are often faced with adults who have been sent to training, there are some insights to be garnered from the research on adults who seek out a structured learning experience on their own, something we all do once or twice a year (p. 45).

Six of the thirty factors listed by Zemke dealt with motivation of the adult learner.

1. Adults seek out learning experiences in order to cop specific life-change events.

2. The more life-change events an adult encounters the likely he or she is to seek out learning opportunitie

3. The learning experiences adults seek out on their own are directly related at least in their own perception to the life-change events that triggered the seeking.

4. Adults are generally willing to engage in learning experiences before, after, or even during the life-change event.

5. Although adults have been found to engage in learning for a variety of reasons. . . learning is not its own reward. Adults who are motivated to seek out a learning experience do so primarily because they have a use for the knowledge or skill being sought. Learning is a means to an end, not an end in itself.

6. Increasing or maintaining one's sense of self-esteem and pleasure are strong secondary motivators for engaging in learning experiences (pp. 45-48).

Nearly every researcher and author of adult education addressed the ideas of immediate application of new knowledge, life changes and the range of valuable experience the adult has over the younger student. As Allen (1979, p. 15) stated these points, he also noted that many times the adult student will have more knowledge in some fields than the instructor, and may have some skills the instructor does not have. The differences in backgrounds, experiences, age and motivation ". . . calls for a different approach to utilizing teacher methodologies. It does not call for the use of completely different methodologies." Allen (1979) profiled adult students as:

1. Adults who have been away from systematic education for some time may underestimate their ability to learn.

2. Methods of teaching have changed since many adults were in school. Most of them have to go through a period of adjustment.

3. Various physiological changes occur in the aging process

> such as decline in visual acuity, slower reflexes, and lower energy level. These changes may operate as barriers to learning.
>
> 4. Adults respond less readily to external rewards for learning such as good grades (p. 22).

Tough (1971) found that most adults engage in at least two major learning efforts each year, some as many as 20, with the median of eight. These episodes of learning ranged from 100 to over 2000 hours with the primary motivation being one of learning or changing. Tough saw two types of helpers during the learning episodes. One that provides information, advice and reasons that help the learner make decisions and understand the reasons why. The other helper is a controlling, managing and directing influence, in-charge of the learning project. In this situation the learner gives up control, initiative and freedom, plus a part of his responsibility.

Lindeman (1926) described his entry into formal education as:

> . . . next to the unsuccessful attempt to adjust myself to automatic machines, the most perplexing and baffling experience of my existence. The desire somehow to free education from stifling ritual, formalism and institutionalism was probably born in those frantic hours spent over books which mystified and confused my mind. I had already earned my way in the world from the age of nine, had learned the shipbuilding trade, had participated in strikes, and somehow none of the learning I was asked to do seemed to bear even the remotest relation to my experience. Out of this confusion worse confounded (comfounded confusion, someone has called it) grew the hope that someday education might be brought out of college halls and into the lives of the people who do the work of the world. Later I came to see that these very people who performed productive tasks were themselves creating the experience out of which education might emerge (pp. XIV-XV).

Lindeman saw no need for authoritative teaching, exams without original thinking and rigid pedagogical methods in adult education. By using the forced method of teaching it must be assumed that human

nature is uniform, common and static. If it is assumed that human nature is varied, changing and fluid, then it will be known that life's meanings are conditioned by the individual. Lindeman felt that to learn you had to experience the learning.

Research has shown that some adults do best in the formal atmosphere. Cawley, Miller and Milligan (1976) researched cognitive styles and the adult learner, and found that the more analytical students prefer the formal atmosphere. The more abstract the students' thinking the more adaptable they would be to classroom freedom.

Research by Rossing and Long (1981) on the contributions of curiosity and relevance to adult learning motivation supported the importance of relevance in adult learning. This study gives support to the view that for adults relevance overrides curiosity in the determination of motivation to learn.

Kerwin (1979) compared the educator's perceived education orientation to what the student believed it to be. He used the Education Orientation Questionnaire (EOQ) developed by Hadley (1977) under the supervision of Knowles, and the Educational Description Questionnaire (EDQ) that he derived form Hadley's EOQ. Kerwin found that there was a significant difference between the sexes in andragogical-pedagogical orientation (women were more andragogical than men). He also found that the student's perceptions of the instructor's orientation were significant.

Jones (1982) conducted an analysis of the andragogical-pedagogical orientation of selected faculty at Oklahoma State University. He used the EOQ to determine the orientation of instructors in the College of Arts and Science and the College of Education. The former consisted

of highly structured disciplines and the latter consisted of less structured disciplines. His study found a significant difference between the two, with the highly structured sciences being the most pedagogical. His study found sex to be significant only on subscale 5, evaluation. Jones also concluded that (1) men tended to be more pedagogical instructors than women; (2) graduate instructors more andragogical than undergraduate; (3) instructors who teach courses off campus more andragogical than those who teach only on campus; (4) more experienced faculty members were more pedagogical; (5) instructors with doctorates were more pedagogical than those with masters degrees.

Holmes (1980) researched the relationship of interpersonal behaviors to andragogical and pedagogical orientations of adults by using the EOQ developed by Hadley (1977) and the Fundamental Interpersonal Orientation Behavior Scale by Schultz (1966). The study indicated that (1) the beliefs and attitudes about adult education were significantly different for the andragogical and pedagogical groups, (2) a significant relationship existed between interpersonal behaviors and the orientations of adult educators categorized as andragogical, (3) the relationship between interpersonal behaviors and the orientation of adult educators categorized as pedagogical was not significant. Holmes concluded that the differences in beliefs and attitudes about education and effective learning situations for adult educators can distinguish one adult educator from another. His findings helped provide a research base for the contentions of Knowles and Hadley that a difference in beliefs and practices among adult educators can be characterized as andragogically or pedagogically inclined.

Clarke (1980) found that adults have returned to the pus after extensive exposure to adult roles and respon. He stated:

> Adult students on college campuses enter an established p serve for the young, a place where late adolescents rece,ve preparation for adult roles. Returning adults do not need the same kind of preparation that the adolescent needs, particularly if the mode of instruction restricts their sense of autonomy (p. 92).

He reflected that older students returned to college (1) more resolved than younger students to avoid delaying academic tasks, (2) more approving of the role and the purpose of the teacher and (3) more approving of the purposes and established processes of higher education than youth that enrolled immediately after high school.

It seemed apparent that most educators have recognized a difference in adult students and adolescents, although some argue the need for different teaching methologies. Randall (1981) stated:

> The theory that adults can't learn as well as children has been disproved by modern research. Adults can learn effectively at all ages. However, the way in which adults learn differs significantly from the way in which children learn (p. 110).

Randall listed differences as follows:

1. Adults must want to learn. Children learn what they are told to learn. Adults don't learn just because someone said to; they must have a desire for the skill or knowledge.

2. Adults learn only when they feel a need to learn. They are practical, and want to know how the training will help them--right now. Each session should offer something that can be used immediately.

3. Adults learn by doing. They should use new information immediately, or they soon will dismiss it from their memory.

4. Adults learn by solving realistic problems.

5. Adults respond to a variety of teaching methods. Adu are like children in this respect, the more sensor channels used, the more they will learn.

6. Adults want guidance, not grades. Adults shy away from grades and tests for fear of being humiliated. They want to know how they have progressed (p. 110).

Research by Kasworm (1980), found that older students (26 years and older) displayed characteristics of maturity, self-confidence, well-being, minimal fears and fewer anxieties. They were higher on attitudes of emotional and social adjustment, had higher preference for dealing with theoretical problems and concerns, and for usage of the logical, analytical and critical problem-solving orientation. The younger student displayed preference for esthetic stimulation, introspection, sensitivity to environmental stimuli, enjoyment of novel situations, tolerance for ambiguity and preference for dealing with complexity. The young had a desire to quickly express impulses and to seek gratification. Kasworm found that by age groups there were different socio-emotional perspectives and intellectual thought process orientations. The older student was mature and had developed identity, where the younger student was in the process of developing identity and maturity, and was highly influenced by the environment. These findings were listed by typology in Figure 2.

Kasworm's comments about the study indicated that adults do differ from young students and that the educational institutions would recognize the adult student by "corporation" of the principles of adult education into institutional mission, curriculum and instruction. Kasworm seemed to echo the characteristics of the adult learner as independent, motivated to learn through self interests, highly

Younger Undergraduates	Older Undergraduates
1. Quasi-dependent being	1. Independent being.
2. Limited emotional/financial support for significant others.	2. Major emotional/financial support for significant other.
3. Major time focus on academic and related extracurricular activities.	3. Competing time focus on job, family, community, personal responsibilities in relation to academic activities.
4. High identification with student role.	4. Composite identification with many roles.
5. Seeking out a self-identity.	5. Renewing self-identity.
6. Limited awareness of own capabilities.	6. Continuing growth of awareness of own capabilities.
7. Minimal exposure to life/ career role models.	7. Significant exposure to life/career role models.
8. Minimal self-confidence and developing sense of maturity.	8. Developed and diversified self-confidence and maturity
9. Introspecive orientation.	9. Varied self/others orientation.
10. Impluse (short-term) decision-making.	10. Capacity for delayed gratification (long-term) decision making.
11. Limited exposure to strategies for learning.	11. Varied strategies to learning.
12. Passive learner role (unknown readiness to learn).	12. Active learner role (active readiness to learn).
13. Limited history of self-directed learning.	13. Diversified opportunities for prior development of self-directed learning.
14. Minimal analytical/critical problem-solving skills.	14. Developed analytical/ critical problem-solving skills.
15. Limited prior life experiences.	15. Varied rich life opportunities and experiences.

Source: Kasworm, Carol, E. "The Older Student as an Undergraduate" Adult Education, Vol. 31, November 1 (Fall 1980).

Figure 2: Typology of Differential Characteristics of Older and Younger Undergraduate Students

experienced and self-confident. The adult has long range goal activities integrated into life perspectives. She stated:

> Responsive collegiate institutions should redefine institutional perspectives, curricula, and teaching strategies to maximize and complement the intellectual development of older students. Institutions should reevaluate their programs and policies in relation to the principles of andragogy and the philosophy and positive impact of higher adult education (p. 44).

A program developed in 1981 by the Oklahoma State Human Resource Development Center and Ecosystems Inc. (1981) of Norman, Oklahoma, titled "Design and Delivery of a Program", outlined the principles of training and learning as applied to the adult learner.

> The adult learner is different from the child. Attempting to teach adults with the same methods used with children is often unsuccessful. Our job training efforts must consider these essential factors about adult learners:
>
> 1. The adult is usually a self-directing person. Adults, in contrast with children, like to feel they are self-directing, that they can choose their own direction from a number of alternatives. They resent being directed like a child and often want to participate in deciding what they need to learn.
>
> 2. An adult has more experience than a youth. More important, adults prize their experiences and set a high value on them. To an adult, experiences are unique, 'a mark of a person,' so to speak.
>
> 3. Adults' readiness to learn is geared to their developmental tasks. Children's readiness to learn is geared to their biological development. Adults' readiness to learn is geared to their social development.
>
> 4. The adult learner is concerned with immediate application. The child accumulates knowledge to use at a later time. The adult learner is concerned with learning which can be applied to personal or work settings immediately.
>
> 5. The adult learner <u>can be</u> motivated to learn as readily as younger learners if the learning is coupled to immediate tangible rewards. It is a myth to believe, 'you can't teach an old dog new tricks.' Children learn because of a basic curiosity of the world linked

with parental and social system demands. Adults are more cynical, but will learn just as readily if the pay-off is more realistic and useful.

6. Both adults and children 'learn' in many different ways. Some of us learn best from experience, others learn best from reading or reflection. The difference between adults and children is that adults can often select or utilize more than one learning mode because adults have control over applied learning approaches that children do not consciously have (pp. 15-17).

Most authors of adult education express the need for techniques that accept adults as mature. Kidd (1959) pointed out that maturation was a most useful concept of adult education and listed maturation as a useful hypothesis for investigation. He and other writers (Argyris, 1959; Havinghurst, 1972) have pointed out that humans develop in predictable ways.

Havinghurst (1972) broke this development into three stages of life: Early Adulthood (ages 18-30), Middle Age (ages 30-55), and Later Maturity (55 and older). He saw man developing through these stages with marked transition points and crises. He felt that man learned best those things necessary to advance through the phases. Each task produced a readiness to learn and when it peaked there was a teachable moment. At this teachable moment learners are often self-directed, mature individuals building on their self-concept. Knowles incorporated each of these factors into his theory of andragogy.

Argyris (1959) studied the development of humans from immature to mature. He found that the human does develop in a predictable way. Argyris' studies were conducted in industry, but apply to the school organization in that if humans are continually treated as immature, they are kept from maturing. In many cases the school wants the immature reaction rather than a mature one, for as people mature and

become self-directed they take control of their lives. This self-control is perceived by organizations as a threat, for they must maintain control and authority over the learning process. In adult education, the educator attempts to help the person mature and become self-directed. Argyris assumed that human beings in our culture develop from immature to mature in the following ways:

Immature (infant)	Mature (adult)
Passive	Active
Dependence	Independence
Limited Behavior	Varied Behavior
Casual Interests	Deeper Interests
Short Time Perspective	Long Time Perspective
Subordinate Position	Equal or Superior
Lack of Awareness of Self	Awareness and Control of Self

Knowles also related his assumptions of andragogy to McGregor's (1976) Theory Y. Theory Y assumed the integration of goals, it emphasized most people's interest in work, their desire to be self-directed, and acceptance of responsibility. Knowles' assumptions for andragogy encompassed the assumptions of McGregor's (1976) Theory Y and Argyris' (1968) Mature Adult. It is the adult's ability to grow and to be self-directed that Knowles recognized. Knowles (1978) felt that an adult treated as immature and lazy would rebel and forego adult education. He stated that, ". . . 'to speak of the pedagogy of adult education' is a contradiction of terms. Yet, have not most adults including people in professional training been taught as if they were children" (p. 54)? He also felt that the assumptions of andragogy could be used effectively with children. "I believe that the assumptions of andragogy apply to children and youth as they mature, and that they too, will come to be taught more and more andragogically" (pp. 53-54).

Though Houle (1975) rejected andragogy as a teachi theory for adult learners, he did not reject the concept and children are different. He recognized the differences education to life patterns.

> An adult educational program must always be fitted into the life pattern of those who undertake it. In childhood and youth, schooling takes precedence over most other affairs, but in adulthood, the individual must find the time and place for study, he must spend money for this purpose rather than another, he must alter his associations with his family, fellow workers, friends, and he must give education a high enough priority so that he will not neglect it. Education is never simply added to the actions of a life; it replaces something else; and that replacement must be carefully considered both when an activity is planned and throughout its duration (p. 105).

Andragogy has been accepted by many adult educators as a learning/teaching theory. If there is to be a separate theory of teaching adults then there must be different methodologies that are compatable with the assumptions and philosophies. Knowles (1980) presented a theory of adult education methodologies in a seminar in Tulsa, Oklahoma. The methodologies are as follows:

Type of Learning Objective	Techniques and Methods
Knowledge - gaining information.	Lecture-inquiry process, reading, multi-media, audio-visual presentations, etc.
Understanding - ability to apply.	Case method; critical-incident process, problem-solving.
Skill development.	Practice, drill, simulation, role playing.
Attitudes - behave in uniform manner.	Provide ways to test new attitudes that work better than old role playing; safe experimentation.
Values.	Adopt values of central figures, peer regrouping, biographies, value clarification.

Interests. Satisfying exposure.

These methodologies differ considerably from those presented earlier for pedagogy by Thomas. To use these methods the educator would need guiding principles. James (1981) and several of her doctoral students conducted research into principles of adult learning. Her researchers reviewed the literature and went to many of the leaders in adult education to determine the nine principles they set forth for educators of adults. With James' guidance the students then developed a questionnaire to analyze application of the principles. Their research indicated that there are nine principles and that their questionnaire was potentially effective for analyzing the practice of the principles. The principles are as follows:

1. Adults maintain the ability to learn.
2. Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds and skills.
3. Adults experience a gradual decline in physical/sensory capabilities.
4. Experience of the learner is a major resource in the learning situtation.
5. Self-concept tends to move from dependency to independency as and individual grows in responsibility, experience, and confidence.
6. Adults tend to be life-centered in their orientation to learning.
7. Adults are motivated to learn by a variety of factors.
8. Active learner participation in the instructional/ learning process contributes to learning.

9. A comfortable supportive environment is a key to successful learning.

Civilians as Learners

In fiscal year 1979 the Government spent over $288 million for training of federal employees under the Government Employees Training Act. Training was considered to be for the purpose of ". . .developing those skills, abilities, and knowledges which will best qualify them for the performance of official duties" (Manager's Handbook, 1981, p. 70). Training was found to be the primary goal of any training the government provided, whether it was in-house training, contract training or paying for college courses that were deemed to be job related and would increase knowledge, skills and ability of the attendee. Self-development was encouraged, but usually at the learners' expense and usually during their off-duty time. Even though college degrees could be earned through training, self-development was considered as a spin-off of the training and not the purpose of the training.

The Manager's Handbook stated that there are three purposes for training: "to help employees be better at what they're doing; to develop employees so they can advance to new jobs; and to bring about changes in what your (sic) activity does" (p. 69). The handbook also recommended that the least expensive method of training be used. This ranged from directing the employees to do the job correctly, to on-the-job training, and then to whatever means was available from formal classroom training to contract courses. This would indicate that the instructors could be military personnel, civilian employees, or anyone with the program that could offer the knowledges, skills, and abilities

the government wanted.

The literature reviewed thus far might indicate that the government was solely interested in the training and not the learner. This was found to be far from true. The on-base classroom instructors were military personnel or civilian employees trained as academic or technical instructors. This training included behavior theory, learning theory, counseling techniques, effective listening and study training, etc. (Air Training Command Study Guide, Technical Instructor Course, contents, 1973). The Department of Defense (DOD) recognized the learner's needs to the point of researching learning skills "pretraining". Diekhoff (1982, p. 36)) stated "In recent years, various DOD research and development agencies . . . have targeted increasing portions of their training budgets for designing and evaluating 'learning strategy training programs'. " For other courses, whether contracted or college tuition courses, evaluation determined if the course met the organization's needs. This was accomplished on a DOD form, the DD Form 1556. This gave feedback on the course in general and would include comments by the trainee and the trainee's supervisor, on such things as the objectives, environment and instructor.

The civilian program investigated in this study, the Tinker Management Training Center, was developed ". . . from the point of view of providing the most desirable conditions for learning for adult learners. In general, these conditions were proposed by Knowles and designed into the program . . ." (Smith, 1978, p.11). To insure that the students understood the goals and objectives of each unit of instruction, they were provided with the course outline and each unit's objectives. A pleasant and comfortable atmosphere was established by means

of student conducted interviews, followed by personal introductions. To avoid physical discomfort, the class size was limited to twenty students, attention was given to lighting, temperature, and new furniture was acquired. Active participation and different instructional methodologies were designed into the program. The basic concept was student-centered instruction where the students shared their life experiences to reach course objectives.

Military as Learners

> Millions of Americans have acquired useful knowledge and skills of high quality during their service experience through education programs offered on military bases by civilian institutions. For many it is the only postsecondary education they have had. For others it provided the foundation for further education including the highest professional levels in medicine, law, and teaching, just to cite a few (Allen and Andrews, 1980, p. i).

For over 40 years, the military has been offering programs that include mental stimulation. Bell (1981) found that this policy was implemented by the Morale Division at the Beginning of World War II. Emphasis was placed on both education for self-development and training in knowledge, skills and abilities needed to perform assigned duties. The military provided training that was useful to society. So useful that at one point during World War II it was necessary to change the training philosophy from one of theory and skill (praxiology) to primarily the teaching of skills. This was determined to be necessary since the private sector was luring the military trained in high technology away from military careers (Evans and Herr, 1978).

Even technical instructor training by the Air Force was found to be based upon some of the assumptions of andragogy (Knowles, 1978). The

Technical Instructor Course (1973) study guide stated that one of the instructor's responsibilities was to the student:

> The instructor should keep the course student-centered. This is done by understanding as much as possible about each student and adjusting teaching to his level of understanding. We must motivate the students with clear, definite assignments and presentations, and by conscientiousy (sic) evaluating student progress (p.4).

The study guide addressed such areas as the student's abilities, attitude and experiences, and that these areas should be used as a guide to transmitting ideas.

The military learner was encouraged to seek education. The emphasis was found to be so strong that in 1972 Congress approved the establishment of the Community College of the Air Force. The Community College was designed to encourage the military learner to seek an associate degree in the learner's technical field. Accreditation of Air Force technical training and Professional Military Education was accomplished through college accreditation associations. The credit was applied to an official transcript, along with credits earned from other institutions, toward the degree which would be conferred by the Air Force. The military learners' benefits included tuition assistance paid by the Air Force according to time in service and grade (King, 1982).

The academic instructor's training manual titled Principles and Techniques of Instruction (1967) stated three responsibilities of the instructor as, sense of purpose, ethical responsibilities and leadership responsibilities. The manual also noted that at least one-third of all Air Force personnel are in some type of training, and that this imposed a tremendous responsibility on the Air Force instructor.

Stated under the "sense of purpose" section was the following:

> There are two characteristics of personality of which the instructor needs to be aware. The first is the individual differences in people. Although people are generally similar in the fundamentals which make them human beings, they are greatly dissimilar in intelligence, insight, imagination, and interest. A second characteristic of personality is that man is complex, not simple. Within himself, each individual varies in many ways---in intelligence, interest, spirit, drive and imagination, to suggest only a few (p. 2).

The Air Force instructor would be expected to establish an atmosphere of mutual confidence and respect. This healthy atmosphere would aid in effective teaching, and was deemed vital to the students' learning processes. This was found to be an ethical responsibility. The Air Force instructor was also guided by a code of ethics as follows:

> I am an Air Force instructor. I hold a position of public trust in Air Force education. In discharging the duties consequent to that trust,
>
> I will seek and share the truth.
>
> I will govern my behavior by those principles which my conscience establishes as ethically sound.
>
> I will maintain a high standard of professional integrity.
>
> I will recognize in each student a unique human personality and will strive to help every student reach his highest potential.
>
> I will strive to broaden my understanding and deepen my knowledge so that I may be a better Air Force educational leader.
>
> I will contribute to, and loyally support, the educational program of my school.
>
> I will always be conscious of my privilege and responsibility to preserve and strengthen the United States, its Constitution, and ideals (Principles and Techniques of Instruction, 1967, p. 3).

The manual was similar to the Technical Instructors Course study guide in its approach to learning. It addressed the psychology of learning, to include the characteristics of learning, Guidance and

counseling, and human behavior.

Though this section was titled the Military Learner it should be remembered that both military and civilians are trained as instructors in the same classrooms. Technical instruction is taught by the Air Training Command, and academic instruction is taught by the Air University.

Summary

The comparison between pedagogy and andragogy centered around the subject, learner, teacher and situation. The practice of pedagogy was determined to be subject and teacher-centered with little consideration of the student's concept of self and level of maturity. Pedagogy required a formal, structured environment where the assumptions of Theory X would apply. The methodologies used in pedagogy, with the exception of the seldom used problem-solving method, would require autocratic styles of teaching.

Andragogy, whether accepted as a theory (Knowles) or a technique (Houle) takes into consideration the factors of adult education. It is based upon principles and assumptions that require careful analysis of the learner's experience, life cycle, needs and immediacy of use. Andragogy required that education be student centered. This required that the facilitator relinquish authority and be prepared to interact as an equal, with learners that may know more than he or she in many of the subject areas.

As noted in the review, adults have returned to education in increasingly large numbers. They returned for many reasons, to improve themselves, to learn new skills, but always for information that can be

used immediately. Many left the educational environment because educators were not trained to respect their needs, and used adolescent teaching tecniques.

Few studies were found that dealt directly with the study. Most of the material reviewed for the section "Adults as Learners" was related to problems adults encountered when they returned to the classroom, and need for adult education as a part of the lifelong learning process. Many studies dealt with the need for trained adult educators with andragogical orientations, other studies refuted andragogy as a learning theory, and stated that teaching was the same regardless of the student's age, maturity and life stages.

Knowle's comparison of the assumptions and designs of andragogy and pedagogy were stated for the reader's information. These assumptions were used as a guide for the review. Things known about the adult learner were listed and profiled. Even these ideas were challenged by research that indicated the more analytical adult preferred the more structured and formal atmosphere required in the pedagogical environment. Jones found that instructors in high-structure disciplines were more pedagogical than those in less-structured disciplines. This could indicate that the pedagogical instructor might be matched with the pedagogically oriented student.

Research by Rossing and Long compared curiosity and relevance to adult learning motivation. For adults it was determined that relevance was the motivating force. All of the reviewed literature supported relevance and immediacy of use as necessary to adult learning.

Holmes determined that beliefs and attitudes about adult education were significantly different for the andragogical and pedagogical

groups. He concluded that the difference in belief and attitudes about education and effective learning situations for adult educators can distinguish one adult from another.

Clarke found that adults on college campuses were placed in an environment that prepared the young for adult roles, after they had experienced adult roles. This environment restricted the adults' autonomy. Kasworm's study indicated that adults do differ from young students and that educational institutions should "corporate" the principles of adult education into institutional missions, curriculum and instruction.

Nearly all of the literature that dealt with adult education reflected upon the fact that most adults have matured, and experienced life roles. The reviewed literature was deemed vital to the study of andragogy, pedagogy, and the adult learner's willingness to learn. The motivation to learn might be enhanced by changes in the approach to adult education. Lindeman (1926) stated these ideas over 55 years-ago:

> The approach to adult education will be via the route of situations, not subjects. Our academic system has grown in reverse order; subjects and teachers constitute the starting point, students are secondary. In conventional education the student is required to adjust himself to an established curriculum; in adult education the curriculum is built around student's needs and interests . . . (pp. 8-9).

CHAPTER III

DESIGN AND METHODOLOGY OF THE STUDY

This chapter presents the design and methodology of the study. The following sections describe: (1) the instrument; (2) selection of the population; (3) selection of the sample; (4) collection of the data; and (5) data analysis and statistical procedures.

The purpose of the study was two-fold. First, an instrument had to be developed, validated and reliability tested that would measure the student's preference for an andragogical or pedagogical environment. This instrument, titled the Student Orientation Questionnaire (SOQ), was used to gather data for the second purpose of the study which was to compare the the educational orientation of: (1) military personnel in mandatory training, (2) government employees in mandatory training, (3) a mixture of these groups in voluntary education.

The design of the study was descriptive. Bartz (1981) noted that statistics are usually divided into descriptive and inferential statistics, and even though they differ, they are not mutually exclusive. He stated:

> The task of statistics in general was to reduce large masses of data to some meaningful data. In terms of descriptive statistics this would mean that these meaningful values describe the results of a particular sample of behavior . . . The purpose of a descriptive statistic . . . is to tell us something about a particular group of observations (p. 7).

In this study descriptive statistics were used to describe the

findings of the Students Orientation Questionnaire (SOQ) within the three identified groups as noted earlier. These findings were analyzed by the Statistical Package for the Social Sciences (SPSS) (Nie, 1974).

The Instrument

The Student Orientation Questionnaire (SOQ) developed for this study (see Appendix A for a final copy of the questionnaire) was adapted from questionnaires previously developed by Hadley (1975) and Kerwin (1979). Hadley developed the Educational Orientation Questionnaire (EOQ) to determine the orientation of instructors. Kerwin then adopted the Education Description Questionnaire (EDQ) from the EOQ to determine if the student's perception of the instructor's orientation was the same as the instructor perceived it to be. The SOQ was developed to measure the student's preferences, attitudes and beliefs about education. The SOQ followed Hadley's six dimensional design that measured the following areas: (1) the purpose of education, (2) the nature of the learner, (3) the characteristics of the learning experience, (5) evaluation, and (6) the relationship among learners and between learners and educators.

The SOQ statements were similar in arrangement to Hadley's EOQ and Kerwin's EDQ. The statements from the six dimensions were dispersed throughout the questionnaire in a random manner. The Likert-type scale contained blocks for five possible responses that ranged from "almost always" to "almost never". The responses were labeled from left to right as "almost always", "often", "occasionally", "seldom" and "almost never".

Hadley's (1977, p.6) design was for a "relative measure rather

than absolute." It placed the respondents on an andragogical-pedagogical continuum with those scoring in the highest 25 percent being andragogical and those in the lowest 25 percent considered pedagogical. The SOQ adopted this same measure. Reverse order scoring of the andragogical and pedagogical statements was used with Andragogical-oriented statements being scored from 5 for "almost always" to 1 for "almost never". The pedagogical-oriented statements were scored from 1 for "almost always" to 5 for "almost never". This can be shown on two continua as shown in Figure 3.

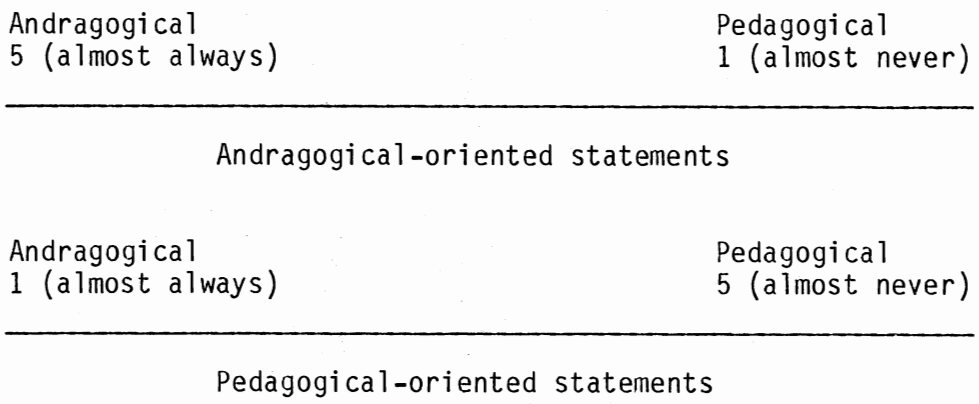

Figure 3. Reverse Scoring of Responses

The jury method of validation was used to test the content validity of each question and the overall content validity. Content validity according to Kerlinger (1973, p. 458) "is the representativeness or sampling adequacy of the content--the substance, the matter, the topics --of a measuring instrument." Kerlinger went on to say:

> Content validation, then, is basically judgmental. The item of a test must be studied, each item being weighed for its presumed representativeness of the universe. This means that each item must be judged for its presumed relevance to the property being measured, which is no easy task. Usually other 'competent' judges should judge the content of the items. The universe of content must, if possible, be clearly defined; that is the judges must be furnished with specific directions for making judgements, as well as with specification of what they are judging. Then some method for pooling independent judgements can be used (p. 459).

An information letter (see Appendix B for a copy of the information letter) and verification instrument (see Appendix C for a copy of the verification instrument) went to selected adult educators with a cover letter by James (see Appendix D for a copy of cover letter). The names of the validation panel are included in Appendix E. The SOQ was judged for content validity by 13 leaders in the adult education field. Of the 60 questions, 50 were validated; twenty-five as andragogical-oriented statements and twenty-five as pedagogical-oriented statements.

Reliability of the SOQ was determined by use of Kuder-Richerson (1939) Formula 21. The formula required that equal weights be given to each item. For the SOQ the weight of "1" was assigned to items rated the same as approximately 80 percent of the panel of experts had rated them. "0" was assigned to those items that were rated differently than 80 percent of the judges. The ten non-validated statements were removed.

Formula 21 is dependent upon three quantities: ". . . the number of items, the standard deviation, and the mean" (Short-Cut Statistics to Teacher Made Tests, 1964, p. 30). The formula used was:

$$\text{rel.} = 1 - \frac{M(n-m)}{ns^2}$$

M = mean
n = number of items
s = standard deviation.

The reliability coefficient determined by this formula was .77. This is not a percentage, but according to Short-Cut Statistics to Teacher Made Tests (1964, p. 31) ". . . an estimate of how close you would come to the same score if you gave a parallel form of the test." Normally a reliability above .60 would be acceptable in teacher-made tests.

The demographics desired for this study were added to the final page of the questionnaire. They included: age, sex, employment status, and the highest educational level attained. No names or personal identification were requested.

Selection of the Population

The population on which the study was based consisted of students in (1) military management training conducted on Tinker Air Force Base, (2) civilian management training conducted at the Tinker Management Training Center, Oscar Rose Junior College, and (3) college classes conducted on Tinker Air Force Base presented by Oklahoma State University.

Selection of the Sample

The design of the research called for a cluster sample of 100 adult students in each identified group. The cluster sample was selected because of the likeness of the population. Bartz (1981) stated:

> In practice it may be very difficult to stratify a population on a nationwide basis, so cluster sampling is often used.

> Whereas members of a given stratum or subgroup of the stratified sample are alike, a cluster is itself composed of the different variables (p. 151).

These variables include sex, age, socioeconomic level, etc. The clusters are any intact unit and are the population of clusters. The clusters identified in this study were: (1) Group 1, Military personnel in mandatory management training; (2) Group 2, civilians in mandatory training; (3) Group 3, a mixture of these groups in voluntary education.

Collection of Data

Three hundred SOQ's were printed for administration. The instructor of each class was contacted to confirm his or her willingness to participate in the study. All agreed to participate and to allow the researcher access to their classes to administer the SOQ.

Care was exercised to insure that a survey was completed only once by each student, since some were enrolled in more than one class. The surveys were administered between May and September 1982.

The 300 SOQs were administered and returned. All were deemed usable for the study since all instructions were followed. The researcher insured that 100 instruments were administered in each of the three identified groups selected for this study. The data from the SOQ were recorded on computer punch cards. The Oklahoma State University Computer Center was used to facilitate data analysis.

Data Analysis and Statistical Procedures

The Mann-Whitney U Test was selected for the statistical analysis of the data. This was selected for its ability to analyze data that

did not meet the assumptions and limitations of more structured tests used to measure the parameters of the population. Three assumptions of most parametric analysis require interval or ratio data, homogeneity of variance, and normal distribution of the population (Bartz, 1981). These assumptions were violated in this study because information was compiled from a Likert-type scale. This scale does not accurately measure responses between each choice since no weight is assigned and the scale is subjective in nature. A scale of this type is an ordinal or ranking scale. Huck, Cormier and Bounds (1974) feel this is still another reason why the nonparametric tests are preferred by many researchers. They stated about ordinal data: "Ordinal scale determines a relation between objects, events, people, or characteristics in terms of their being greater than or equal to one another on the basis of a selected criterion" (p. 197). If even one assumption or limitation has been violated, it becomes necessary to use nonparameteric tests.

Nonparametric tests have similarities to parametric tests that are important to researchers in education. "Both (1) test hypothesis, (2) involve a level of significance, (3) require a calculated value, (4) compare against a critical value, (5) conclude with a decision about the hypothesis" (Huck, Cormier and Bound, 1974, p. 198). Cases often arise in the behavioral sciences where the data are ordinal and can be ranked. This ranking allowed the use of the Mann-Whitney U Test which has many similarities to parametric tests listed above.

The Mann-Whitney U Test was selected for its power to determine if two groups are from the same population. Bartz (1981, p. 123) states, "The Mann-Whitney test is a very powerful nonparameteric technique for determining whether two independent samples have been

drawn from the same population." The Mann-Whitney U was applied to the data to determine if the groups were significantly different.

The statistical analysis was carried out in three stages. First, scores were computed for each person and means for each group were computed and ranked. Second, frequencies were computed for the demographic characteristics. Third, after the means were ranked into quartiles to determine the first quartile (pedagogical) and the fourth quartile (andragogical), these means were analyzed by the Mann-Whitney U Test for significant differences.

For the purpose of this study, the .05 level of confidence was chosen. Statisticans consider this to be neither too high nor too low for predictability in research such as this study. Bartz (1981) stated

> . . . statisticans have conventionally used the 5% level as the cutting point; that is if a certain result happens 5% of the time or less by chance, we will say that this is not sampling error but the result is a real one (p. 252).

This increased the probability of rejecting the null hypothesis when it was true. To have set the significance level at .01 would have increased the probability of accepting the null hypothesis when it was false.

CHAPTER IV

PRESENTATION OF FINDINGS

This chapter presents the findings of the research. The following sections describe: (1) subjects of the study groups; (2) characteristics of the subjects; (3) discussion of the subscales; (4) discussion of the Student Orientation Questionnaire; (5) analysis of data; and (6) summary.

Subjects of the Study

This study was designed to investigate any discernable differences between the student's perceived educational orientation as andragogical or pedagogical in military and civilian education programs conducted on, by, or for Tinker Air Force Base (TAFB). The purpose of the study was two-fold. First, an instrument had to be developed, validated and reliability tested that would measure the student's preference for an andragogical or pedagogical environment. This instrument, titled the Student Orientation Questionnaire (SOQ), was used to gather data for the second purpose of the study which was to compare the education orientation of: (1) military personnel in mandatory training; (2) civilian government employees in mandatory training; (3) a mixture of these groups in voluntary education.

For this study the groups were limited to military personnel and civilians from Tinker Air Force Base in mandatory training and a

mixture of these groups in voluntary education classes conducted by Oklahoma State University on Tinker AFB. The groups was identified as: Group 1, military; Group 2, civilian; Group 3, mixed.

During the period of May through September, participants in first-level management training at the Tinker Management Training Center and the participants in Phase I and II of Professional Military Education (PME) at the Base Education Office were administered the Student Orientation Questionnaire (SOQ). The return rate was 100 percent and all questionnaires were usable. During the same period, the classes conducted by Oklahoma State University at Tinker AFB were surveyed. The return rate was also 100 percent and all questionnaires again were usable.

Characteristics of the Subjects

The participants were asked to provide demographic information on four characteristics: (1) age, (2) sex, (3) educational level, and (4) employment status. Each of the three groups consisted of 100 participants. Group 1 was composed of active duty military members ranging in age from 19 to 37 (only three of the 100 were over 30 years of age). The mean age for this group was 23.65 with a standard deviation of 3.01 years. Eighty-three of the group were male and 17 were female. The education level ranged from the General Educational Development (GED) equivalency to 17 years with the mean of 12.82 years and a standard deviation of 1.14. Group 2 was composed of federal civilian employees ranging in age from 26 to 69 (three of the 100 were over 60 years of age). The mean age for this group was 44.85 with a standard deviation of 8.81. Ninety-one of the group were male and nine were female. The

education level ranged from 10 to 21 years with a mean of 13.58 years and a standard deviation of 2.08. Group 3 was composed of a mixture of both military and civilian employees in voluntary education, ranging in age from 20 to 60. The mean age for this group was 36.12, with a standard deviation of 9.58. Eighty-three of the group were male and 17 were female. The education level ranged from 12 to 23 years, with a mean of 15.72, and a standard deviation of 2.19. Normally this group would have a minimum of 64 credit hours since this is a requirement for most of the Oklahoma State University programs at Tinker AFB, but in this case 20 of the students were enrolled in Airframe and Powerplant courses which do not have the higher education requirement. The frequency distribution for the age, sex and education level are listed in Table I for Group 1, Table II for Group 2 and Table III for Group 3.

A comparison of the mean ages of the groups revealed that there was an age range as seen in the profile. However, Jones (1982) and Kerwin (1979) indicated age was not a significant factor in andragogical-pedagogical orientation.

The education level of Group 1 and Group 2 was very similar. Group 1 had a mean of 12.82 years compared to Group 2 with a mean of 13.58 years. These are similar when compared to Group 3. Group 3 had a mean of 15.72 years. This placed Group 1 and Group 2 at a level above high school graduates, but below the associate degree level. The average of Group 1 and Group 2's education level was 13.2. Group 3 would have averaged higher than the bachelor degree level if it had not been for the 20 members of the Powerplant and Airframe classes. These classes also dropped the mean age of the group considerably.

Of the 300 persons surveyed, only 43 were female. This did not

TABLE I

FREQUENCY DISTRIBUTION FOR GROUP 1
BY AGE, SEX, AND EDUCATION LEVEL

Age Group (years)	Freq N	Sex M N	Sex F N	Ed. level (years)	Freq N
		83	17	11	2
19 - 29	97			12	52
30 - 39	3			13	20
	100			14	18
				15	5
$\bar{X}$ = 23.65				16	2
SD = 3.01				17	1
					100
				$\bar{X}$ = 12.82	
				SD = 1.14	

TABLE II

FREQUENCY DISTRIBUTION FOR GROUP 2
BY AGE, SEX, AND EDUCATION LEVEL

Age Group (years)	Freq N	Sex M N	Sex F N	Ed. level (years)	Freq N
				10	1
19 - 29	2	91	9	11	4
30 - 39	28			12	38
40 - 49	39			13	16
50 - 59	28			14	15
60 - 69	3			15	6
	100			16	11
				17	3
				18	3
$\bar{X}$ = 44.85				19	2
SD = 8.81				21	1
					100
				$\bar{X}$ = 13.58	
				SD = 2.08	

TABLE III

FREQUENCY DISTRIBUTION FOR GROUP 3
BY AGE, SEX, AND EDUCATION LEVEL

Age Group (years)	Freq N	Sex M N	Sex F N	Ed. level (years)	Freq N
19 - 29	27	83	17	12	9
30 - 39	39			13	8
40 - 49	26			14	15
50 - 59	4			15	10
60 - 69	4			16	23
	100			17	11
				18	18
				19	2
$\overline{X}$ = 36.12				20	3
SD = 9.58				23	1
					100
				$\overline{X}$ = 15.72	
				SD = 2.19	

give a large enough sample of females in any one group to differentiate between the sexes within or between groups for comparative purposes.

Group 1 was composed of military personnel in mandatory management training. All were in Phase 1 or Phase 2, Professional Military Education. Phase 1 was designed to teach supervisory skills to military members prior to achieving Noncommissioned Officer (NCO) status. Phase 2 was designed for all NCOs and government employees who supervise three or more employees. Successful course completion is required before NCOs can attend higher levels of Professional Military Education.

Group 2 was composed of government employees in mandatory management training. At Tinker AFB, the civilians scheduled for mandatory management training were so numerous that a special training concept was designed to accommodate their training. Therefore the civilians were trained in separate facilities. The management training was accomplished at the Air Logistic Center Management Training Center on the Oscar Rose Junior College Campus or Tinker Management Training Center. All civilian supervisors are scheduled to attend the training, although completion is not required for promotion to higher positions.

Group 3 was identified as a mixture of military and civilian employees seeking voluntary education for self-improvement. College class attendance at Tinker AFB is limited to military personnel, their dependents, civilian employees, and retired military personnel. However, military dependents were eliminated from this study leaving the identified groups. Oklahoma State University classes were selected in part because they were readily available to the researcher.

Discussion of the Subscales

The Student Orientation Questionnaire (SOQ) (See Appendix A for a copy of the SOQ) is divided into six Subscales intended to measure different dimensions of the respondents' attitudes, preferences and beliefs about the educational environment. Figure 2 shows the dimensions and question numbers in each dimension.

Hadley (1977) did not limit the Education Orientation Questionnaire to the assumptions of andragogy and pedagogy (Knowles, 1970). The SOQ also is not limited to the assumptions, but is easily related to the concepts of andragogy and pedagogy. It should be noted that there were some areas where similar questions were asked as can be seen by reading the questionnaire and comparing the breakdown of the items by subdimensions (Subscales) in Figure 2.

Subscales 1, Purpose of Education, examines what the student perceives as the objectives of the educational environment. Some people may see the purpose as the transmission of social and cultural concepts, while others may feel the purpose is the guidance of students to social change. The purpose of education may be seen as the teaching of traditional skills or as the development of new skills. The statements on this Subscale examine the purpose and procedures of education as the student believes they should be.

Subscale 2, Nature of the Learner, examines the purpose of the instructor in the classroom. Some people believe the instructor is in a parent-like role as the director of the educational environment. Students that hold this belief expect to be treated as a child, and accept a dependency relationship. Those with this nature expect to be force-

STUDENT'S ORIENTATION QUESTIONNAIRE

Distribution of questionnaire items:

Subdimensions	Relevant Item Number		Frequency
Purpose of Education	Pedagogical	1, 12, 13	3
	Andragogical	2, 24, 33, 36, 42	5
Nature of Learners	Pedagogical	3, 14, 34, 43,	4
	Andragogical	4, 25, 26	3
Characteristics of Learning Experience	Pedagogical	15, 37	2
	Andragogical	5, 16, 27, 41, 45	5
Management of Learning Experience	Pedagogical	6, 17, 19, 28, 29, 38, 44, 46, 50	9
	Andragogical	7, 20, 39, 47, 49	5
Evaluation	Pedagogical	8, 30	2
	Andragogical	9, 21, 40	3
Relationships: Educator-Learner and Among Learners	Pedagogical	10, 18, 31, 35, 48	5
	Andragogical	11, 22, 23, 32	4
			50

Figure 2. The Andragogical-Pedagogical Distribution of Questions by Subscale

fed in the classroom, with no say in the goals or material. Students who have experienced life transitions, crises, and are self-directed in their educational goals often cannot accept the parent-like instructor. They expect to have freedom in learning, to share the resources of the other class members. These students do not want control exercised over them for control's sake.

Subscale 3, Characteristics of Learning Experiences, examines the role of the instructor. Some students feel the teacher should take full responsibility for all that is to be learned. If viewed this way the student must accept the teacher's word as the absolute truth, for the objective will become "not to fail" instead of "to achieve." Other students feel the teacher is a facilitator of the learning experiences.

Subscale 4, Management of Learning Experiences, examines the source of direction and control of learning. Many students prefer to be told what is to be learned. They want the teacher to accept full responsibility for their learning. Other students prefer facilitators of learning that guide them in achieving their fullest potential, these students share the responsibility for their learning.

Subscale 5, Evaluation, examines whether the teacher or student should evaluate learning. Some students and teachers prefer the teacher to take full responsibility for evaluation. They feel that any learning of value is measurable and the teacher should judge learning based on established standards with grades assigned accordingly. Other students would rather evaluate their own learning. They know when they have not achieved their goals and are dissatisfied. This dissatisfaction becomes a source of motivation to the student.

Subscale 6, Relationships: Educator-Learner and Among Learners, examines the behavior of teachers and students in the classroom. Specifically their attitudes toward competition, manipulation and interpersonal relationships. Some students prefer a relationship that is strictly impersonal, they want grades based strictly on competition. Other students prefer a warm, trusting relationship where mistakes can be discussed and experiences shared.

The distribution of Subscale 1, Purposes of Education, ranged from a low of 15 to a high of 40. The possible range was from eight to 40. The mean for the three groups was 25.45, with a standard deviation of 3.65. Group 1 ranged from 17 to 37 with a mean of 25.25 and standard deviation of 3.31. Group 2 ranged from 18 to 32, with a mean of 25.33 and a standard deviation of 2.87. Group 3 ranged from 18 to 40, with a mean of 25.78 and a standard deviation of 4.57. The distribution of Subscale 1 is shown in Table IV. The first quartile score was 23.28 and fourth quartile score was 28.11.

The distribution of Subscale 2, Nature of the Learner, ranged from a low of 15 to a high of 34. The possible range was from seven to 35. The mean for the three groups was 24.08, with a standard deviation of 3.11. Group 1 ranged from 17 to 31 with a mean of 24.24 and standard deviation of 2.78. Group 2 ranged from 15 to 32, with a mean of 23.63 and a standard deviation of 3.18. Group 3 had a range from 17 to 34, with a mean of 24.37 and a standard deviation of 3.33. The distribution of Subscale 2 is shown in Table V. The first quartile score was 22.31 and fourth quartile score was 26.39.

The distribution of Subscale 3, Characteristics of Learning Experiences, ranged from a low of 11 to a high of 34. The possible range

TABLE IV

DISTRIBUTION OF SCORES FOR SUBSCALE 1,
PURPOSE OF EDUCATION, BY GROUPS

Group 1		Group 2		Group 3	
score	freq.	score	freq.	score	freq.
17	1	18	1	15	1
19	2	20	2	16	2
20	4	21	8	17	1
21	5	22	7	18	2
22	10	23	9	19	2
23	10	24	10	20	3
24	11	25	15	21	1
25	11	26	14	22	9
26	13	27	11	23	6
27	7	28	10	24	12
28	7	29	6	25	14
29	8	30	3	26	10
30	4	31	2	27	6
31	3	32	2	28	5
32	4		100	29	7
	100			30	4
$\overline{X}$ = 25.25		$\overline{X}$ = 25.33		31	4
SD = 3.313		SD = 2.868		32	4
				33	1
				34	2
				35	2
				37	1
1st quartile 23.28				40	1
4th quartile 28.11					100
				$\overline{X}$ = 25.78	
				SD = 4.572	

TABLE V

DISTRIBUTION OF SCORES FOR SUBSCALE 2,
NATURE OF LEARNERS, BY GROUPS

Group 1		Group 2		Group 3	
score	freq.	score	freq.	score	freq.
17	1	15	1	17	1
18	2	17	2	18	1
19	2	18	2	19	6
20	3	19	4	20	3
21	8	20	7	21	5
22	5	21	8	22	14
23	24	22	12	23	12
24	10	23	14	24	14
25	13	24	11	25	13
26	8	25	13	26	3
27	10	26	7	27	12
28	8	27	6	28	6
29	5	28	6	29	2
31	1	29	5	30	3
	100	30	1	31	2
		32	1	32	2
			100	34	1
					100
$\bar{X}$ = 24.24					
SD = 2.782		$\bar{X}$ = 23.63			
		SD = 3.17		$\bar{X}$ = 24.37	
				SD = 3.326	

1st quartile score 22.31
4th quartile score 26.39

was from seven to 35. The mean for the three groups was 23.79, with a standard deviation of 3.49. Group 1 ranged from 11 to 32 with a mean of 24.18 and standard deviation of 3.28. Group 2 also ranged from 11 to 32, with a mean of 23.28 and a standard deviation of 3.50. Group 3 ranged from 14 to 34, with a mean of 23.91 and a standard deviation of 3.65. The distribution of Subscale 3 is shown in Table VI. The first quartile score was 22.09 and fourth quartile score was 26.24.

The distribution of Subscale 4, Management of Learning Experiences, ranged from a low of 31 to a high of 58. The possible range was from 14 to 70. The mean for the three groups was 43.2, with a standard deviation of 4.63. Group 1 ranged from 38 to 56 with a mean of 44.44 and standard deviation of 3.67. This groups had the narrowest distribution. Group 2 ranged from 33 to 53, with a mean of 42.84 and a standard deviation of 4.01. Group 3 ranged from 31 to 58, with a mean of 42.34 and a standard deviation of 5.72. The distribution of Subscale 4 is shown in Table VII. The first quartile score was 40.37 and fourth quartile score was 46.17.

The distribution of Subscale 5, Evaluation, ranged from a low of six to a high of 23. The possible range was from five to 25. The mean for the three groups was 15.49, with a standard deviation of 2.72. Group 1 ranged from 12 to 23 with a mean of 16.69 and standard deviation of 2.31. Group 2 ranged from 8 to 21, with a mean of 15.26 and a standard deviation of 2.42. Group 3 ranged from six to 22, with a mean of 14.51 and a standard deviation of 2.95. The distribution of Subscale 5 is shown in Table VIII. The first quartile score was 13.59 and fourth quartile score was 17.38.

The distribution of Subscale 6, Relationships: Educator-Learner

TABLE VI

DISTRIBUTION OF SCORES FOR SUBSCALE 3, CHARACTERISTICS OF LEARNING EXPERIENCES, BY GROUPS

Group 1		Group 2		Group 3	
score	freq.	score	freq.	score	freq.
11	1	11	1	14	1
16	1	13	1	16	1
17	1	16	1	18	2
18	2	17	1	19	2
19	1	18	2	20	8
20	5	19	6	21	7
21	10	20	5	22	17
22	8	21	9	23	17
23	5	22	15	24	7
24	14	23	11	25	8
25	16	24	16	26	11
26	14	25	7	27	5
27	10	26	8	28	4
28	5	27	8	29	3
29	5	28	3	30	2
31	1	29	2	31	1
32	1	30	1	34	4
	100	31	2		100
		32	1		
			100		
$\bar{X}$ = 24.18					
SD = 3.276		$\bar{X}$ = 23.28		$\bar{X}$ = 23.91	
		SD = 3.49		SD = 3.649	

1st quartile score 22.09
4th quartile score 26.24

TABLE VII

DISTRIBUTION OF SCORES FOR SUBSCALE 4, MANAGEMENT OF LEARNING EXPERIENCES, BY GROUPS

Group 1		Group 2		Group 3	
score	freq.	score	freq.	score	freq.
38	1	33	2	31	1
39	8	34	1	32	1
40	5	36	3	33	2
41	8	37	1	34	3
42	11	38	3	35	2
43	11	39	12	36	4
44	10	40	6	37	9
45	10	41	11	38	6
46	11	42	4	39	5
47	6	43	15	40	4
48	5	44	11	41	11
49	3	45	9	42	6
50	5	46	3	43	8
51	2	47	7	44	10
52	1	48	3	45	6
53	2	49	3	46	1
56	1	50	3	47	3
	100	51	1	48	3
		52	1	49	3
$\overline{X}$ = 44.44		53	1	50	4
SD = 3.672			100	52	1
				53	3
		$\overline{X}$ = 42.84		55	1
		SD = 4.009		56	1
1st quartile score 49.37				58	2
4th quartile score 46.17					100
				$\overline{X}$ = 42.34	
				SD = 5.723	

TABLE VIII

DISTRIBUTION OF SCORES FOR SUBSCALE 5, EVALUATION, BY GROUPS

Group 1		Group 2		Group 3	
score	freq.	score	freq.	score	freq.
12	1	8	2	6	1
13	6	10	3	7	2
14	17	11	1	9	3
15	7	12	1	10	2
16	13	13	16	11	5
17	19	14	11	12	6
18	17	15	19	13	19
19	11	16	17	14	10
20	4	17	15	15	12
21	1	18	7	16	16
22	3	19	4	17	12
23	1	20	3	18	6
		21	1	19	2
				20	1
$\overline{X}$ = 16.69		$\overline{X}$ = 15.26		21	2
SD = 2.312		SD = 2.423		22	1
1st quartile score 13.59					
4th quartile score 17.38				$\overline{X}$ = 14.51	
				SD = 2.246	

and Among Learners, ranged from a low of 19 to a high of 43. The possible range was from nine to 45. The mean for the three groups was 29.53, with a standard deviation of 4.21. Group 1 ranged from 19 to 43 with a mean of 29.84 and standard deviation of 4.17. Group 2 ranged from 21 to 43, with a mean of 28.85 and a standard deviation of 3.69. Group 3 ranged from 20 to 44, with a mean of 29.9 and a standard deviation of 4.68. The distribution of Subscale 6 is shown in Table IX. The first quartile score was 27.07 and fourth quartile score was 32.33.

Discussion of the Student Orientation Questionnaire

The combined score distribution is presented in Table X. It is the combined scores of the three groups by subscales and subscales combined into a total group of 300 scores. The combined scores were used to compute the first and fourth quartiles for the Subscales and the 300 scores. The distribution of the combined scores ranged from a low of 127 to a high of 221. The possible range was from 50 to 250. The mean for the three groups was 161.55, with a standard deviation of 14.56. Group 1 ranged from 134 to 205 with a mean of 164.64 and standard deviation of 11.64. Group 2 ranged from 134 to 199, with a mean of 159.19 and a standard deviation of 11.53. This group had the narrowest distribution. Group 3 ranged from 127 to 221, with a mean of 160.81 and a standard deviation of 18.99. This group had the widest distribution. The distribution for the combined scores is shown in Table 8. The first quartile score was 153.08 and fourth quartile score was 169.25.

On the subscale distribution, it was difficult to determine how

TABLE IX

DISTRIBUTION OF SCORES FOR SUBSCALE 6,
RELATIONSHIP: EDUCATOR-LEARNER
AND AMONG LEARNERS, BY GROUPS

Group 1		Group 2		Group 3	
score	freq.	score	freq.	score	freq.
19	1	21	2	20	1
22	2	23	3	21	1
23	5	24	4	23	4
24	3	25	9	24	5
25	4	26	8	25	7
26	5	27	9	26	7
27	11	28	16	27	8
28	7	29	10	28	8
29	5	30	12	29	12
30	10	31	9	30	4
31	13	32	3	31	9
32	6	33	2	32	8
33	14	34	4	33	5
34	3	35	4	34	3
35	4	36	4	35	6
36	1	43	1	36	6
37	4		100	37	1
40	1			40	1
43	1			41	3
	100	$\bar{X}$ = 28.85		44	1
		SD = 3.686			100
$\bar{X}$ = 29.84					
SD = 4.172				$\bar{X}$ = 29.90	
				SD = 4.679	
1st quartile score 27.07					
4th quartile score 32.33					

TABLE X

DISTRIBUTION OF COMBINED SUBSCALE SCORES BY GROUP

Group 1		Group 2		Group 3	
score	freq.	score	freq.	score	freq.
134	1	134	1	127	1
148	3	140	1	130	2
149	2	141	1	131	1
150	4	142	5	132	1
151	1	143	1	134	1
152	4	144	1	135	1
153	2	145	1	138	1
154	4	146	3	139	1
155	3	147	2	140	2
156	3	148	1	141	1
157	1	149	2	142	2
158	2	150	2	143	2
159	4	151	4	144	3
160	6	152	2	145	3
162	4	153	1	148	3
163	3	154	5	150	2
164	5	155	5	151	2
165	3	156	5	152	3
166	3	157	3	153	3
167	6	158	4	154	6
168	3	159	7	155	3
169	4	160	2	156	5
170	2	161	3	157	3
171	2	162	6	158	2
172	3	163	1	160	1
173	1	164	2	161	1
174	2	165	7	162	3
175	1	166	3	163	2
176	3	167	3	164	4
177	3	169	1	165	3
178	3	171	1	166	1
180	1	172	2	167	1
181	2	173	1	168	1
183	1	176	1	169	1
185	1	179	2	170	1
190	2	180	1	171	3
191	1	181	3	172	4
205	1	182	1	173	1
	100	183	1	174	2
		184	1	175	2
$\bar{X}$ = 164.64		199	1	179	3
SD = 11.426			100	182	3
				185	1

TABLE X (Continued)

Group 1		Group 2		Group 3	
score	freq.	score	freq.	score	freq.
				186	1
		$\overline{X}$ = 159.19		189	1
		SD = 11.537		200	1
1st quartile score 153.08				202	1
4th quartile score 169.25				212	1
				217	1
				219	1
				221	1
					100
				$\overline{X}$ = 160.81	
				SD = 18.987	

many individuals actually fell into the quartiles since the distribution was narrow and frequencies high at the quartile divisions. On the individual group distribution, it was somewhat easier to determine how many from each group fell into the first and fourth quartile. This was determined by using the quartiles from the combined groups and applying it to the individual groups. The first quartile was 153.08 meaning that 25 percent of the total scores fell at and below 153.08. This means that the seventyfifth score was at 153.08 on the combined listing. The fourth quartile was determined to be 169.25, meaning that 225 scores fell below that figure with 75 at or above on the combined listing.

Using the quartile data in the manner previously described, the approximate number of scores can be determined in the individual groups that fall into the quartiles. Group 1 had 15 in the lower quartile or 15 that fell into the pedagogical quartile, and 34 in the fourth quartile or 34 that fell into the andragogical quartile. Group 2 had 27 scores in the first quartile and 16 in the fourth quartile. Group 3 had 32 scores in the first quartile and 25 in the fourth quartile. The quartile breakdown indicated that Group 1 was less pedagogical in orientation than Group 2 or Group 3, and Group 3 is the most pedagogical in orientation. Group 1 was the most andragogical in orientation according to quartile scores. Group 3 was more andragogical in orientation than Group 2.

Analysis of Data

Thed Mann-Whitney U Test was applied to the data from the three identified groups. Each possible group combination was compared: (1)

TABLE XI

RESULTS OF T-TEST BETWEEN GROUPS
BY SUBSCALE

Scale	Group 1 to 2	Group 1 to 3	Group 2 to 3
1. Purpose of Education	.7739	.4333	.6072
2. Nature of Learners	.1451	.9559	.1848
3. Characteristics of Learning Experience	.0257*	.1661	.4596
4. Management of Learning Experience	.0079*	.0004*	.1987
5. Evaluation	.0001*	.0000*	.0489*
6. Relationships: Educator-Learner and Among Learners	.0404*	.7809	.1261
7. Combined	.0006*	.0098*	.9854

* Significant at $p < .05$.

Group 1 to Group 2, (2) Group 2 to Group 3, (3) Group 1 to Group 3. This test gave clear significant differences in most of the Subscales and to the individual group totals. Table XI presents the t-tests and their significance. For the purpose of this study .05 level of significance was chosen.

The following subscales and individual group combined scores showed significant values:

1. Subscale 3, Characteristics of Learning Experiences, Group 1, to Group 2.

2. Subscale 4, Management of Learning Experiences, Group 1 to Group 2, and Group 1 to Group 3.

3. Subscale 5, Evaluation, Group 1 to Group 2, Group 1 to Group 3, and Group 2 to Group 3.

4. Subscale 6, Relationships; Educator-Learner and Among Learners: Group 1 to Group 2.

5. Combined Scores, individual Groups, Group 1 to Group 2, and Group 1 to Group 3.

The Mann-Whitney U Test with a two-tailed t was used to answer the questions of this study. They were as follows: (1) Does the military person in mandatory management training prefer an andragogical or pedagogical environment compared to the civilian and mixed groups? (2) Does the civilian employee in mandatory management training prefer an andragogical or pedagogical environment compared to the military and mixed groups? (3) Does the mixture of these groups in voluntary college classes prefer an andragogical or pedagogical environment compared to the military and civilian groups? The data from the individual groups and the subscales discussed below.

On Subscale 1, Purposes of Education, there were no significant differences between any of the groups. They are very close in ranked values. It was interesting to note, however, that Group 3 did rank higher than either of the other groups with Group 1 ranking the lowest.

On Subscale 2, Nature of the Learners, there were no significant differences between any of the groups. The ranked scores were not as close on this scale as on Subscale 1. Group 1 ranked higher than either of the other groups. Group 3 ranked higher than Group 2.

On Subscale 3, Characteristics of Learning Experiences, there were significant differences between Group 1 and Group 2. Group 1 had a mean rank of 109.58. Group 2 had a mean rank of 91.91. The two-tailed t was .026. Again Group 1 was the most andragogically oriented. Group 1 and Group 3 were similar in orientation on this scale as were Group 2 and Group 3. Group 1 ranked higher than the other groups and Group 3 higher than Group 2.

On Subscale 4, Management of Learning Experiences, Group 1 was significantly different than the other two groups. Group 1 had a mean rank of 111.32 and Group 2 had a mean rank of 89.67. The two-tailed t was .0001. In comparing Group 1 to Group 3, Group 1 had a mean rank of 114.89, and Group 3 had a mean rank of 86.10. The two-tailed t was .0004. Group 1 was the most andragogically oriented. Group 3 was the most pedagogically oriented.

On Subscale 5, Evaluation, all groups were significantly different in orientation. Group 1 had a mean rank of 116.35, Group 2 had a mean rank of 89.67. The two-tailed t was 0001. In comparing Group 1 to Group 3, Group 1 had a mean rank of 122.63, Group 3 had a mean rank of

78.38. The two-tailed t was .0000. In comparing Group 2 to Group 3, Group 2 had a mean rank of 108.49 to Group 3's mean rank of 92.51. The two-tailed t was .0489. Evaluation was the only subscale where all groups were significantly different. Group 1 was the most andragogically oriented, significantly more so than Group 2 or Group 3. Group 2 was more andragogically oriented than Group 3, but pedagogically oriented compared to Group 1. Group 3 was extremely pedagogically oriented in this Subscale, compared to the other groups. A review of Table VIII Subscale 5, clearly shows that Group 3 falls more into the pedagogical group (lower quartile) than does either of the other groups. Group 1 falls more into the andragogical quartile than either of the other groups.

On Subscale 6, Relationships: Educator-Learner and Among Learners, Group 1 was significantly different than Group 2. Group 1 had a mean rank of 114.54 and Group 2 had a mean rank of 92.14, with a two-tailed t of .0404.

On the individual groups, Group 1 was significantly different than Group 2 and Group 3. Group 1 had a mean rank of 114.54 and Group 2 had a mean rank of 86.46, with a two-tailed t of .0006. In comparing Group 1 to Group 3, Group 1 had a mean rank of 111.06 and Group 3 had a mean rank of 89.94, with a two-tailed t of .0098. Group 2 and Group 3 were not significantly different, in fact, these two groups were almost identical in ranked scores with Group 2 having a mean rank of 100.57 and Group 3 having a mean rank of 100.42.

The data from the first and fourth quartiles and the Mann-Whitney U have answered the research questions as follows:

Question 1. The military person in mandatory management training

prefers an andragogical environment as compared to the civilian employee and mixed groups.

Question 2. Civilian employees in mandatory management training prefers a pedagogical environment as compared to the military and mixed groups.

Question 3. The mixture of these groups in voluntary college classes prefer a pedagogical environment as compared to the military and civilian group.

Summary

In the presentation of the findings, the purposes of the research have been met, that is to investigate any discernable differences between the student's perceived educational orientation as andragogical or pedagogical in military and civilian education programs conducted on, by, or for Tinker Air Force Base (TAFB). The purpose of the study was two-fold. First, an instrument had to be developed, validated and reliability tested that would measure the student's preference for an andragogical or pedagogical environment. This instrument, titled the Student Orientation Questionnaire (SOQ), was used to gather data for the second purpose of the study which was to compare the educational orientation of: (1) military personnel in mandatory training; (2) government employees in mandatory training; (3) a mixture of these groups in voluntary education.

The Student Orientation Questionnaire was developed, validated and reliability tested. It was determined to be a valid instrument for measuring the student's orientation as andragogical or pedagogical by a panel of experts in the adult education field. The reliability of the

instrument was determined to be .77. The research indicated that Group 1 was significantly different in orientation than Group 2 and Group 3 in individual group scores. This was determined by the Mann-Whitney U Test. The quartile scores also indicated that Group 1 would be more andragogically oriented than the other two groups. On four of the Subscales, Group 1 was significantly different than one or both of the two groups, and ranked less than one group only once in the analysis of the Subscales. This once was not significant. Group 2 and Group 3 were pedagogically oriented compared to Group 1. Group 2 and Group 3 were very similar in orientation.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary, conclusions and recommendations of the study. The following sections describe: (1) the purpose of the study, (2) a summary of the study, (3) conclusions about the findings of the study, (4) recommendations for practice and further research.

This study was designed to investigate any discernible differences between the student's perceived educational orientation as andragogical or pedagogical in military and civilian education programs conducted on, by, or for Tinker Air Force Base (TAFB). The purpose of the study was two-fold. First, an instrument had to be developed, validated and reliability tested that would measure the student's preference for an andragogical or pedagogical environment. This instrument, titled the Student Orientation Questionnaire (SOQ), was used to gather data for the second purpose of the study, which was to compare the education orientation of (1) military personnel in mandatory training; (2) civilian government employees in mandatory training; and (3) a mixture of these groups in voluntary education.

Summary

The instrument developed by the study was adapted from questionnaires previously developed by Hadley (1975) and Kerwin (1979). The SOQ was determined to be valid by a panel of experts in the adult

education field. The reliability coefficient of the SOQ was found to be .77. The SOQ measured student preference on the following subscales: (1) purpose of education; (2) nature of the learner; (3) characteristics of the learning experience; (4) management of the learning experience; (5) evaluation; and, (6) relationships: educator-learner, and among learners.

The first and fourth quartiles were computed for comparison of the subscales and group scores to determine which groups were most andragogical and pedagogical in orientation. The Mann-Whitney U was used to determine any significant differences on the subscales and individual group scores. The quartile comparisons indicated that Group 1 was less pedagogical in orientation than Group 2, or Group 3, and that Group 3 was the most pedagogical in orientation. Group 1 was the most andragogical in orientation, with Group 3 being more andragogical than Group 2. The subscale scores were so clustered at the quartile limits that comparisons were not made.

The Mann-Whitney U Test found significant differences on Subscales 3, 4, 5, and 6, and between the identified groups. The significant differences on the Subscales were; Subscale 3, Group 1 to Group 2; Subscale 4, Group 1 to Group 2; Subscale 5, Group 1 to Groups 2 and 3, and Group 2 to Group 3; Subscale 6, Group 1 to Group 2. On the individual group scores Group 1 was significantly different than Groups 2 and 3. Group 1 (military) was found to be more andragogical in orientation than Group 2 (civilian) or Group 3 (mixed).

Conclusions

Conclusions from the findings of this study include:

1. The Student Orientation Questionnaire (SOQ) developed for this study was determined to be a valid and reliable instrument to measure the preferences of students as andragogical or pedagogical. Some comments written by the respondents indicate a need for clarification of some of the terms.

2. The quartile range determined for the 300 questionnaires could be used by other researchers or instructors to determine if an individual completing the SOQ fell into the andragogical-pedagogical quartiles, compared to the three groups in this study.

3. The quartile ranges found the military in mandatory training to be less pedagogical and more andragogical in orientation than the civilians in similar mandatory training, and a mixture of these groups in voluntary education. This is probably due to the training received by the military prior to management training that includes human relations training and acceptance of responsibility.

4. The quartile ranges for the mixed group to be more pedagogically oriented than the civilian and more andragogical than the civilians. This is because the scores from Group 2 fell into the second and third quartile, while more of Group 3's scores were in the first and fourth quartiles. This might have been caused by surveying students in structured courses compared to those in adult education classes. This is consistent with findings in a study by Jones (1982) that a high structure course is more pedagogical than a low structure course.

5. The preferences of the three groups toward the purpose of learning were not different. This was the only Subscale that Group 1 was more pedagogical in orientation than the other groups. This may be a value still held from high school or possibly from basic training

where subjects are taught as the absolute truth.

6. The nature of the learners were not different between the three groups. They had similar beliefs about their role in the classroom.

7. The results of the section on characteristics of the learning experience were significant between the military and civilians, but not significant between the civilians and the mixed group. This indicated the military to be more andragogical in their preference for a part in the learning process. They prefer active participation to passive learning. This is indicative of their training where they have been taught to be responsible for their learning.

8. The preference for who manages the learning experience was significantly different between the military and the civilians and the mixed group. The military was much more andragogical in orientation. It is possible that the civilian and mixed group's preference for strong guidance in the learning environment makes the military appear to be so much more andragogical. The mean score of the military was close to the means of the other groups, but the ranking of the scores determined the difference to be significant.

9. The orientation of the groups toward evaluation were all significantly different. The military were much more andragogical than the other groups. The mixed group was much more pedagogical than the civilians. This is probably due to concern over grades in the college environment, where the objective becomes "not to fail" rather than "to achieve."

10. The military were significantly more andragogical in their desire for warm relationships between the educator and the student and among students. This is probably due to the fact that the military are

separated from their families and are trying to satisfy their belonging needs.

11. The military person in mandatory management training prefers an andragogical environment as compared to the civilian and mixed groups. The civilians and mixed group were very close in orientation when compared to each other.

Recommendations

Recommendations for practice arising from the findings of this study include:

1. Instructors that work with any of these groups should attend training that would make them aware of the orientation of that group.

2. Students in the civilian and mixed groups should be made aware of the advantages of a more andragogical environment. Many adult students might return to the learning environment if the instruction were more andragogical.

3. Workshops should be developed by the universities that would guide students in self-directed learning and self-evaluation techniques. This workshop should be offered both as a seminar prior to mandatory training and as a credit course.

4. Universities that contract for, or offer courses to military installations, where the three groups in this study are likely to attend, should match the type of instruction to the orientation of the group receiving the training or education. This could be accomplished by administering the EOQ to instructors and determining their orientation.

5. Military and civilian instructors of the mandatory courses

should be made aware of the differences in orientations within the groups. Workshops should be developed to train in the instructional techniques required by the different groups.

6. Train instructors in the use of the SOQ, then have them administer it to each class they instruct and adapt their style to the groups's orientation.

Recommendations for further study include:

1. Rewrite and revalidate the Education Orientation Questionnaire, to bring it up to date in the areas where need is indicated by adult educators.

2. Rewrite and revalidate the Education Description Questionnaire to insure that the statements match those of the EOQ. From previous use, it seemed to have some ambigious statements that were difficult to relate to the EOQ.

3. Rewrite and revalidate the Student Orientation Questionnaire to replace the ten statements dropped after initial validation and to make it parallel to the EOQ and EDQ.

4. Reliability test the new instruments in concurrent sampling of the three rewritten and revalidated instruments.

5. Conduct studies using the three questionnaires to determine if the instructor's orientation (EOQ) is the same as the students perceive it to be, (EDQ) and if the student's orientation (SOQ) is compatible to that of the instructor.

6. Conduct studies in the sciences and education fields to determine if the students have a different orientation to learning (as do the instructors in these fields).

7. Conduct studies to determine if military members in training

other than management have the same orientation as the groups studied.

9. Studies to determine why the military group was significantly more andragogical in orientation than the other groups in this study.

10. Studies to determine why the mixed group fell more into the first and fourth quartile than the civilian group.

11. An inquiry group to construct self-scoring instruments that could be used without the aid of computers, thus making it possible to find the results of the questionnaire within a class period for immediate feedback to the instructor and students.

12. Studies to determine if age, sex, or education level have an impact on andragogical-pedagogical orientation.

13. Studies to determine the differences in teacher training at all levels to determine if teachers are trained in techniques that would be effective with students that have different educational orientations.

14. Studies to compare psychographic questionnaires to the student's education oreintation to determine if the orientations are related to psychological factors.

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APPENDIX A

STUDENT ORIENTATION

QUESTIONNAIRE

STUDENT'S ORIENTATION QUESTIONNAIRE

Instructions: This questionnaire is designed to determine the learner's orientation to education. Please respond in terms of your perception of how each of the statements would alter your willingness to learn.

For each statement, please put an "X" in one of the five boxes after the statement. Choose the box that best indicates your attitude toward the statement.

	ALMOST ALWAYS	OFTEN	OCCASIONALLY	SELDOM	ALMOST NEVER
For example: I feel the instructor should provide me with the opportunity to develop warm relationships with other students.	( )	( )	(X)	( )	( )
1. I feel the instructor should present all information as the absolute truth.	( )	( )	( )	( )	( )
2. I feel the instructor should encourage me to examine my feelings, attitudes, and behaviors.	( )	( )	( )	( )	( )
3. I feel the instructor should firmly direct learning.	( )	( )	( )	( )	( )
4. I feel the instructor should treat me as if I am able to learn.	( )	( )	( )	( )	( )
5. I feel the instructor should allow me to actively participate in deciding what is to be learned and how it is to be done.	( )	( )	( )	( )	( )
6. I feel the instructor should give examinations regularly.	( )	( )	( )	( )	( )
7. I feel the instructor should help me to organize the content and sequence of learning activities.	( )	( )	( )	( )	( )
8. I feel the instructor should evaluate my achievements and assign grades.	( )	( )	( )	( )	( )
9. I feel the instructor should obtain suggestions from me on how to improve his/her teaching.	( )	( )	( )	( )	( )
10. I feel the instructor should encourage competition among students.	( )	( )	( )	( )	( )
11. I feel the instructor should show me that my abilities and experiences are respected and valued.	( )	( )	( )	( )	( )

		ALMOST ALWAYS	OFTEN	OCCASIONALLY	SELDOM	ALMOST NEVER
12.	I feel the instructor should help me to accept the values of society	( )	( )	( )	( )	( )
13.	I feel the instructor's principle method of teaching should be lecturing, and assigning reading or both.	( )	( )	( )	( )	( )
14.	I feel the instructor should not allow individual differences among students in the academic sense.	( )	( )	( )	( )	( )
15.	I feel the instructor should act as if s/he is responsible for motivating me to learn what s/he wants me to learn.	( )	( )	( )	( )	( )
16.	I feel the instructor should help me to choose and develop my own direction for learning.	( )	( )	( )	( )	( )
17.	I feel the instructor should make all decisions about when, where and what should be taught.	( )	( )	( )	( )	( )
18.	I feel the instructor should seldom know the average students as separate individuals.	( )	( )	( )	( )	( )
19.	I feel the instructor should not change his/her expressed decisions without unusually good reasons.	( )	( )	( )	( )	( )
20.	I feel the instructor should take time to develop a friendly and cooperative atmosphere in the classroom.	( )	( )	( )	( )	( )
21.	I feel the instructor should allow me to evaluate his/her achievement.	( )	( )	( )	( )	( )
22.	I feel the instructor should discourage competition among students.	( )	( )	( )	( )	( )
23.	I feel the instructor should discuss his/her learning blunders with me.	( )	( )	( )	( )	( )

		ALMOST ALWAYS	OFTEN	OCCASIONALLY	SELDOM	ALMOST NEVER
24.	I feel the instructor should help me define changes in behavior which I desire and the instructor should help me try to make the changes.	( )	( )	( )	( )	( )
25.	I feel the instructor should treat me as competent to choose and carry out my own projects for learning.	( )	( )	( )	( )	( )
26.	I feel the instructor should help me to free myself of fixed habits and patterns of thought that block my growth.	( )	( )	( )	( )	( )
27.	I feel the instructor should enourage me to create my own learning activities and material.	( )	( )	( )	( )	( )
28.	I feel the instructor should require assignments and grade them.	( )	( )	( )	( )	( )
29.	I feel the instructor should follow a topical outline course plan.	( )	( )	( )	( )	( )
30.	I feel the instructor should base evaluation entirely on the course objectives.	( )	( )	( )	( )	( )
31.	I feel the instructor should encourage competion among students to develop courage, determination and industry.	( )	( )	( )	( )	( )
32.	I feel the instructor should provide students with opportunities to develop warm relationships with him/her.	( )	( )	( )	( )	( )
33.	I feel the instructor should encourage me to critically evaluate my society and try new behavior.	( )	( )	( )	( )	( )
34.	I feel the instructor should know better than the students what is best for them.	( )	( )	( )	( )	( )

		ALMOST ALWAYS	OFTEN	OCCASIONALLY	SELDOM	ALMOST NEVER
35.	I feel the instructor loses respect if s/he makes a mistake.	( )	( )	( )	( )	( )
36.	I feel the instructor should act as if maturity depends more on continuing growth in self-under standing than on growth in knowledge.	( )	( )	( )	( )	( )
37.	I feel the instructor should tell me what should be learned and how it should be done.	( )	( )	( )	( )	( )
38.	I feel the instructor should determine the learning objectives to avoid wasting too much time in irrelevant discussion.	( )	( )	( )	( )	( )
39.	I feel the instructor should be concerned primarily with the needs of the student.	( )	( )	( )	( )	( )
40.	I feel the instructor should allow students to prepare tests.	( )	( )	( )	( )	( )
41.	I feel the instructor should allow me to set my own goals.	( )	( )	( )	( )	( )
42.	I feel the instructor should help me learn what I decide will aid me in achieving my personal goals.	( )	( )	( )	( )	( )
43.	I feel the instructor should take great pains to prevent students from taking advantage of him/her.	( )	( )	( )	( )	( )
44.	I feel the instructor should play it safe and not take chances.	( )	( )	( )	( )	( )
45.	I feel the instructor should encourge cooperation among students and invite them to take risks and experiment.	( )	( )	( )	( )	( )

	ALMOST ALWAYS	OFTEN	OCCASIONALLY	SELDOM	ALMOST NEVER
46. I feel the instructor should carefully plan the work for the class.	( )	( )	( )	( )	( )
47. I feel the instructor should use group activities rather than such methods as lectures.	( )	( )	( )	( )	( )
48. I feel the instructor's relationship with students should be impersonal.	( )	( )	( )	( )	( )
49. I feel the instructor should plan units of work with the students.	( )	( )	( )	( )	( )
50. I feel the instructor should set up a clear plan and stick with it.	( )	( )	( )	( )	( )

Please provide the following information:

_____ Age

_____ Sex

_____ Civilian Employee

_____ Military (Active Duty)

_____ Highest educational level attained (years)

THANK YOU!!

APPENDIX B

INFORMATION LETTER

Arthur C. Christian
4929 Beacon Hill Road
Oklahoma City, OK
73135

Dear

As an adult educator and doctoral candidate in the adult education field, I am very interested in the student's orientation to education. I presently instruct in a mandatory program for federal civilian employees. These employees range from first-level supervisors to mid-level managers. I wish to compare the civilian's education orientation to the military member's education orientation in essentially the same type of mandatory management training. Then I intend to compare the civilian and military orientation to a mixture of these groups in voluntary college courses.

Because of your knowledge and experience in the field of adult education, I am asking you to verify the statements on the Student's Orientation Questionnaire as andragogical or pedagogical by placement of "P" or "A" as explained on the questionnaire. The questionnaire was adapted from Hadley's (1975) Education Orientation Questionnaire.

Please review the Student's Orientation Questionnaire for validity and send your response to me in the self-addressed, stamped envelope.

Thank you for your time and assistance in testing the validity of the Student's Orientation Questionnaire.

Sincerely,

Arthur C. Christian

APPENDIX C

VERIFICATION INSTRUMENT

PLACEMENT/VERIFICATION OF STUDENT'S ORIENTATION QUESTIONNAIRE STATEMENTS BY "P" OR "A"

Please verify each of the following statements by placing "P" or "A" in the appropriate blocks following the statement. "P" indicates that you feel the statement is pedagogical in orientation. Pedagogy is defined as the "Art and Science of teaching Children" (Knowles). "A" indicates that you feel the statement is andragogical in orientation. Andragogy is defined as the "Art and science of helping adults learn" (Knowles). As an example the first statement has been verified by placement of a "P" in the appropriate block.

	PEDAGOGY	ANDRAGOGY
1. I feel the instructor should present all information as the absolute truth.	(P)	( )
2. I feel the instructor should encourage me to examine my feelings, attitudes, and behaviors.	( )	( )
3. I feel the instructor should firmly direct learning.	( )	( )
4. I feel the instructor should treat me as if I am able to learn.	( )	( )
5. I feel the instructor should act as if all learning is an intellectual process of understanding ideas and acquiring skills.	( )	( )
6. I feel the instructor should allow me to actively participate in deciding what is to be learned and how it is to be done.	( )	( )
7. I feel the instructor should give examinations regularly.	( )	( )
8. I feel the instructor should help me to organize the content and sequence of learning activities.	( )	( )
9. I feel the instructor should evaluate my achievements and assign grades.	( )	( )
10. I feel the instructor should obtain suggestions from me on how to improve his/her teaching.	( )	( )
11. I feel the instructor should encourage competition among students.	( )	( )

		PEDAGOGY	ANDRAGOGY
12.	I feel the instructor should show me that my abilities and experiences are respected and valued.	( )	( )
13.	I feel the instructor should help me to accept the values of society	( )	( )
14.	I feel the instructor's principle method of teaching should be lecturing, and assigning readings, or both.	( )	( )
15.	I feel the instructor should not allow individual differences among students in the academic sense.	( )	( )
16.	I feel the instructor should act as if s/he is responsible for motivating me to learn what s/he wants me to learn.	( )	( )
17.	I feel the instructor should explain everything to me clearly.	( )	( )
18.	I feel the instructor should help me to choose and develop my own direction for learning.	( )	( )
19.	I feel the instructor should make all decisions about when, where and what should be taught.	( )	( )
20.	I feel the instructor should seldom know the average students as separate individuals.	( )	( )
21.	I feel the instructor should not change his/her expressed decisions without unusually good reasons.	( )	( )
22.	I feel the instructor should take time to develop a friendly and cooperative atmosphere in the classroom.	( )	( )
23.	I feel the instructor should maintain the same standards in his/her program as in other accredited courses.	( )	( )
24.	I feel the instructor should allow me to evaluate his/her achievement.	( )	( )

		PEDAGOGY	ANDRAGOGY
25.	I feel the instructor should discourage competition among students.	( )	( )
26.	I feel the instructor should discuss his/her learning blunders with me.	( )	( )
27.	I feel the instructor should ask questions that guide students toward truth.	( )	( )
28.	I feel the instructor should help me define changes in behavior which I desire and the instructor should help me try to make the changes.	( )	( )
29.	I feel the instructor should trust the students to behave reasonably.	( )	( )
30.	I feel the instructor should treat me as competent to choose and carry out my own projects for learning.	( )	( )
31.	I feel the instructor should help me to free myself of fixed habits and patterns of thought that block my growth.	( )	( )
32.	I feel the instructor should know the subject matter and have the ability to explain or demonstrate it clearly and interestingly.	( )	( )
33.	I feel the instructor should enourage me to create my own learning activities and material.	( )	( )
34.	I feel the instructor should require assignments and grade them.	( )	( )
35.	I feel the instructor should follow a topical outline course plan.	( )	( )
36.	I feel the instructor should base evaluation entirely on the course objectives.	( )	( )
37.	I feel the instructor should encourage competion among students to develop courage, determination and industry	( )	( )

		PEDAGOGY	ANDRAGOGY
38.	I feel the instructor should provide students with opportunities to develop warm relationships with him/her.	( )	( )
39.	I feel the instructor should help students to live reasonable, orderly lives.	( )	( )
40.	I feel the instructor should encourage me to critically evaluate my society and try new behavior.	( )	( )
41.	I feel the instructor should know better than the students what is best for them.	( )	( )
42.	I feel the instructor loses respect if s/he makes a mistake.	( )	( )
43.	I feel the instructor should act as if maturity depends more on continuing growth in self-understanding than on growth in knowledge.	( )	( )
44.	I feel the instructor should allow students to "get off the subject".	( )	( )
45.	I feel the instructor should tell me what should be learned and how it should be done.	( )	( )
46.	I feel the instructor should determine the learning objectives to avoid wasting too much time in irrelevant discussion.	( )	( )
47.	I feel the instructor should be concerned primarily with the needs of the student.	( )	( )
48.	I feel grades should reflect my grasp of the subject or skill taught.	( )	( )
49.	I feel the instructor should make few required assignments.	( )	( )
50.	I feel the instructor should allow students to prepare tests.	( )	( )
51.	I feel the instructor should allow me to set my own goals.	( )	( )

		PEDAGOGY	ANDRAGOGY
52.	I feel the instructor should help me learn what I decide will aid me in achieving my personal goals.	( )	( )
53.	I feel the instructor should take great pains to prevent students from taking advantage of him/her.	( )	( )
54.	I feel the instructor should play it safe and not take chances.	( )	( )
55.	I feel the instructor should encourage cooperation among students and invite them to take risks and experiment.	( )	( )
56.	I feel the instructor should carefully plan the work for the class.	( )	( )
57.	I feel the instructor should use group activities rather than such methods as lectures.	( )	( )
58.	I feel the instructor's relationship with students should be impersonal.	( )	( )
59.	I feel the instructor should plan units of work with the students.	( )	( )
60.	I feel the instructor should set up a clear plan and stick with it.	( )	( )

Please return to:

Arthur C. Christian
4929 Beacon Hill Road
Oklahoma City, Ok. 73135

Thank You!

APPENDIX D

COVER LETTER

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION

STILLWATER, OKLAHOMA 74078
CLASSROOM BUILDING 406
(405) 624-6275

July 26, 1982

Art Christian is attempting to validate Hadley's Education Orientation Questionnaire as part of his dissertation. As an expert in the field of adult education, we need your assistance. Thank you for your participation.

Sincerely,

Waynne B. James
Associate Professor

WBJ/wr

APPENDIX E

VALIDATION PANEL

PANEL OF VALIDATION JUDGES

Dr. Al Campbell
Associate Professor
Adult & Extension Education
Texas A & M University

Dr. Jerry Davis
Assistant Professor
Occupational & Adult Education
Oklahoma State University

Dr. Donnie Dutton
Professor
Adult Education
University of Arkansas

Dr. Waynne James
Associate Professor
Occupational and Adult Education
Oklahoma State University

Dr. Eric Jones
Occupational and Adult Education
Oklahoma State University

Dr. Malcolm Knowles
Professor Emeritus
Adult and Community College Education
North Carolina State University

Dr. Violet Malone
Associate Professor and
State Leader of Extension
Education
University of Illinois, Urbana

Dr. Ken McCullogh
Professor
Continuing and Higher Education
University of Tennessee

Dr. John Peters
Professor
Continuing and Higher Education
University of Tennessee

Dr. Mark Rossman
Professor and Head
Adult & Extension Education
Arizona State University

Dr. Don Seaman
Professor
Adult & Extension Education
Texas A & M University

Dr. Doug Smith
Associate Dean
College of Continuing Education
Drake University

Dr. Gene Whaples
Associate Professor
University of Maryland

VITA

Arthur Carl Christian

Candidate for the Degree of

Doctor of Education

Thesis: A COMPARATIVE STUDY OF THE ANDRAGOGICAL-PEDAGOGICAL ORIENTATION OF MILITARY AND CIVILIAN PERSONNEL

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Cleveland, Tennessee, July 11, 1941, son of Mr. and Mrs. August Charles Christian.

Education: Graduated from Central High School, Shelbyville, Tennessee in 1959; received Bachelor of Business Administration degree from Central State University, Edmond, Oklahoma, 1976; received Master of Arts degree in Political Science, from Oklahoma State University, Stillwater, Oklahoma in 1978; completed requirements for the Doctor of Education degree with emphasis in Human Resource Development at Oklahoma State University, Stillwater, Oklahoma, in December, 1982.

Professional Experience: Jet Aircraft Maintenance Superintendent, Leadership Management Instructor, USAF, 1960-1980; Adjunct Instructor Oklahoma State University 1976-; Full Charge Operations Manager for Airport Parking Company of America, Inc., Urban Oklahoma City location 1980-1981; Management Instructor for Oklahoma State University at the Air Logistics Center, Management Training Center, 1981.

Professional Organizations: Phi Delta Kappa, American Association for Adult and Continuing Education (AAACE).