

ANALYSIS OF PERCEIVED ADULT EDUCATION PRACTICES
IN PATIENT EDUCATION PROGRAMS

By

LAVERA FAY WOODY

II

Bachelor of Science
Southwest Missouri State University
Springfield, Missouri
1968

Master of Science
Oklahoma State University
Stillwater, Oklahoma
1973

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
May, 1981

Thesis
1981D
W912a
cop2



ANALYSIS OF PERCEIVED ADULT EDUCATION PRACTICES
IN PATIENT EDUCATION PROGRAMS

Thesis Approved:

Wayne B. James

Thesis Adviser

Letha J. Lippert

Margaret S. Callen

Ernie W. Duggan

Norman D. Durkin

Dean of the Graduate College

ACKNOWLEDGMENTS

I would like to express my appreciation to the advisory committee, each of whom contributed to this study; Dr. Wayne James, thesis adviser, Dr. Cecil Dugger, Dr. Bettye Gaffney and Dr. Margaret Callsen.

In addition, I thank the members of the research team, Phil Offill, Marie Oberle, Elizabeth Price and Joe Gerling, who have been companions in this enterprise.

A special thanks is due to members of the staff of the Stillwater Medical Center for their assistance in refining the questionnaire employed in this study. Thanks go, of course, to the patient educators who contributed to the study by completing the questionnaire and by sharing their insight into the development of patient education programs in the West South Central Region.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Statement of the Problem	5
Purpose of the Study	5
Limitations	6
Definition of Terms	7
Research Questions	8
Organization of the Study	8
II. REVIEW OF LITERATURE	10
Patient Education	10
Principle 1: Adults Maintain the Ability to Learn	14
Principle 2: Adults Are a Highly Diversified Group of Individuals With Widely Differing Preferences, Needs, Backgrounds, and Skills	15
Principle 3: Adults Experience a Gradual Decline in Physical/Sensory Capabilities	19
Principle 4: Experience of the Learner Is a Major Resource in the Learning Situation	22
Principle 5: Self-Concept Tends to Move From Dependency to Independency as an Individual Grows in Responsibilities, Experiences and Confidence	22
Principle 6: Adults Tend to Be Life Centered in Their Orientation to Learning	23
Principle 7: Adults Are Motivated to Learn By a Variety of Factors	25
Principle 8: Active Learner Participation in the Instructional/Learning Process Contributes to Learning	27
Principle 9: A Comfortable, Supportive Environment is a Key to Successful Learning	28
III. METHODOLOGY	30
Review of Literature	30
Refinement of Principles	31

Chapter	Page
Development of the Questionnaire	32
Field Testing and Refinement of Questionnaire	33
Validation of Placement of Questionnaire Statements Under the Related Principles	34
Reliability	35
Selection of Sample	36
Collection of Data	36
Analysis of Data and Statistical Procedures	37
 IV. PRESENTATION AND ANALYSIS OF DATA	 39
Return Rate of the Questionnaire	39
Description of the Respondents	40
Analysis of Perceived Application of the Principles	45
Analysis of Individual Questionnaire Statements . . .	48
Analysis of Application of Principles By Different Groups in the Sample	54
Summary of Findings	61
 V. SUMMARY, CONCLUSIONS, AND IMPLICATIONS	 62
Summary	62
Conclusions	65
Recommendations for Further Research	66
Implications	66
 BIBLIOGRAPHY	 70
 APPENDIX A - PRELIMINARY STATEMENTS OF PRINCIPLES AND REVIEW PANEL	 77
 APPENDIX B - REFINED PRINCIPLES AND VALIDATION PANEL (COVER LETTER)	 81
 APPENDIX C - FINAL QUESTIONNAIRE	 88
 APPENDIX D - PLACEMENT OF QUESTIONNAIRE STATEMENTS UNDER PRINCIPLES	 94
 APPENDIX E - LIST OF PROGRAMS OFFERED	 100

LIST OF TABLES

Table	Page
I. Percent of Staff Active in Patient Teaching	3
II. Respondents' Job Title and Hospital Size	41
III. Frequency of Patient Education Programs Offered	42
IV. Frequency of Patient Education Method Employed	43
V. Frequency of Patient Education Methods Employed By Size of Hospital	44
VI. Rank Order of Principles	47
VII. Mean Scores of Individual Questionnaire Statements and Principles	49
VIII. Mean Values for Each Principle by Hospital Size	54
IX. Mean Values for Each Principle by Hospital Ownership	56
X. Mean Values For Each Principle by Time Spent in Patient Teaching; by Coordinated or Not Coordinated Programs	57
XI. Mean Values for Each Principle by Respondent's Educational Degree	58
XII. Mean Scores for Each Principle by Area of Study of Respondent	59
XIII. Mean Values for Each Principle by Method of Instruction	60

CHAPTER I

INTRODUCTION

Patient education is possibly one of the fastest growing areas of adult education. In 1972, a comprehensive survey by the American Hospital Association (AHA) showed 15 percent of community hospitals had formal patient education programs and 6.5 percent were planning to start such programs in the coming year (AHA, 1972). In 1975 a similar survey indicated 46 percent of the short-term general non-federal hospitals had "educational activities with written goals and objectives for the patient and/or family during inpatient hospitalization" (AHA, 1975). The 1978 American Hospital Association study showed an increase of nine percent in the number of hospitals with at least one patient education program (AHA, 1978).

In the 1975 study the American Hospital Association explained that while patient education had always been an integral part of health care, there was a need to have it a managed function. Some of the reasons given for this need included the increase in the number and variety of available treatments, studies documenting the success of patient education in "effecting positive treatment outcomes" and the emphasis on patients' rights and documentation of informed consent (AHA, 1975).

Another reason for increasing interest in patient education is the spiraling cost of health care. As Chaisson (1980, p. 1) stated, "Today

the struggle to survive in an inflationary economy makes it abundantly clear that it is cheaper to stay well than to get well."

The results of the 1975 AHA survey of hospitals and the regional meetings associated with the survey are summarized by Elsesser (1978).

The availability of education support and patient education resources varies from region to region, from state to state, and from hospital to hospital.

Hospitals are just beginning to coordinate patient education activities on a total hospital basis.

The majority of persons designated as patient education coordinators are in the department of Nursing or Education, with responsibilities for staff development.

Most of the persons in charge of patient teaching would like to gain skills in education, management and evaluation (p. 4).

Patient teaching is being carried out by a wide variety of hospital staff members. Caffarella (1978) surveyed doctors, nurses, patient education staff, allied health professionals, and hospital administrators on the staffs of 25 hospitals in Maine. She used a somewhat broader definition of patient education than the one used by the AHA. In her study patient teaching was defined as:

A process whereby patients and in some cases their families:
(1) receive more information about specific health problems,
(2) learn the necessary competencies to deal with the health problem, and (3) develop accepting attitudes toward the health problem and resulting changes in life styles (p. 13).

The definition includes both the formal patient education programs surveyed by the American Hospital Association and informal patient teaching which occurs incidental to patient care. Patient education is not limited to planned activities, but takes place as a by-product of every interaction the patient has while in the hospital (Hyner, 1978).

Caffarella (1978, p. 85) found that informal patient teaching was more prevalent than formal patient teaching. Most of the hospital

staff in her survey considered patient teaching to be extremely important for some or all hospital patients and each group (doctors, nurses, etc.) stated that they were more active in informal patient teaching than formal patient teaching. Her results follow:

TABLE I
PERCENT OF STAFF ACTIVE IN PATIENT TEACHING

	Formal	Informal	Number Who Agreed Patient Teaching Is Extremely Important for Patients
Patient Education Staff	88%	100%	96%
Nurses	26%	79%	85%
Doctors	33%	68%	67%
Allied Health Professionals	43%	78%	80%
Hospital Administrators	31%	35%	80%

Even though informal teaching endeavors are more common than formal programs, they are likely to be given on a "sporadic" or "as-time-permits" basis. McCaughrin (1979, p. 135), explains, "It is quite common for patient education to proceed in an uncoordinated manner, with each

health care provider operating independently of other providers attending the same patient." Chaisson (1980, p. 2) points out that the amount of information given patients "is dependent upon the teaching interest and capabilities of individual health care providers." One study showed that completed patient teaching varied from a high of 80 percent during the month of the hospital's lowest census to a low of 14 percent during the month of highest census (McCulloch, 1980).

Well-conducted patient education programs have been shown to be successful in reducing readmissions for chronically ill patients as well as reducing the number of medication errors made at home after patients are dismissed (Bunning, 1976). Posavac (1980) reviewed 23 studies evaluating patient education programs to conclude that patient compliance with the medical regimen was the measure most strongly affected by patient education. Knowledge and reduction of anxiety were the measures next most affected.

There is a legal concern that patient teaching be done well. The physician is liable for not giving the patient needed information about his care. If the physician turns this duty over to the hospital the hospital becomes liable for injury to the patient caused by lack of knowledge. McCaughrin (1979, p. 139) in his article on the legal precedents for patient teaching states this concept more precisely. "A hospital undertaking to conduct patient education, prescribed by an attending physician, and failing to do so with reasonable adequacy, is liable for consequential injury to the patient."

All these factors underline the importance of studies designed to help patient educators do the very best job possible within the

constraints of the hospital setting. This study was designed to obtain baseline data on the extent to which principles of adult education are applied in patient education programs. A questionnaire was developed to measure the application of these principles and this instrument was used to elicit the perceptions of persons highly involved in patient education as to the application of the principles in their situations.

Statement of the Problem

Administrative factors such as time constraints and limited facilities influence any adult education program. This is especially true of hospital patient education programs because the hospital is designed to give acute care; education is only secondary to this goal. Limited staff understanding of the teaching/learning process is another factor, however, which can cause patient education programs to be ineffective or to fail.

According to Fisher (1976):

The effectiveness of health education, whether it be individual patient program, or a health program for a community, will be influenced to a large extent by the fact that the program is based on the assumptions, principles, and techniques of adult education (p. 135).

Purpose of the Study

The purposes of the study were to (1) identify the basic principles of adult education, and (2) to measure the extent to which accepted principles of adult education are applied in practice with adult learners in hospital patient education programs as perceived by the patient educators. Data generated from this study were analyzed to discover whether the perceived application of these principles differed

significantly with differences in hospital size, or type of ownership. The data were also analyzed to find if the perceived application of the principles differed significantly by the amount of time spent in patient teaching, coordination of program, respondent's educational degree and area of study, and method of instruction (one-to-one or group).

It was expected that this questionnaire would establish some needed base-line data concerning the recognition of these principles and the perceived application of them in patient education programs. Such data would be useful in the future study of actual patient education practice whether by interaction-analysis or other means, and could lead to analysis and improvement of patient education programs by patient educators themselves. Additionally, such data on the self-report of the application of these principles of adult education can be useful to adult educators who are planning courses, seminars, and inservice programs with and for persons in the fast growing field of patient education.

Limitations

This study was conducted within the following constraints:

1. The study was limited to the West South Central area of the United States which included four states -- Texas, Arkansas, Louisiana and Oklahoma.
2. The study was limited by the fact that patient educators are not a well-defined population.
3. The study was affected by limitations inherent in questionnaire research.

Definition of Terms

The following definitions are included to clarify the study:

Adult: "A person (man or woman) who has achieved full physical development and expects to have the right to participate as a responsible homemaker, worker, and member of society" (Houle, 1961, p. 229).

Adult Education:

The process by which men and women (alone, in groups, or in institutional settings) seek to improve themselves or their society by increasing their skill, their knowledge, or their sensitiveness. Any process by which individuals, groups or institutions try to help men and women improve in these ways (Houle, 1961, p. 229).

Andragogy: The art and science of helping adults learn, in contrast to pedagogy, the art and science of teaching children (Knowles, 1970).

Coordinated Patient Education Program: A program in which formal lines of responsibility have been established for direction and implementation of the programs. This could be one person or a department responsible for patient education activities.

Patient Education: A process whereby patients and in some cases their families: (1) receive more information about specific health problems, (2) learn the necessary competencies to deal with the health problems, and (3) develop accepting attitudes toward the health problem and resulting changes in life styles (Caffarella, 1978, p. 13).

Principles: Comprehensive and fundamental laws, doctrines or assumptions.

Research Questions

This research attempted to answer the following questions:

1. To what extent are the accepted principles of adult education being practiced in patient education programs in short-term general hospitals in the West South Central region?
2. Does the extent to which these accepted principles are applied vary with hospital size?
3. Does the extent to which these principles are applied vary with the type of ownership of the hospital -- private, church, or federal?
4. Does the perceived application of the principles vary with whether a program is coordinated or not?
5. Does the perceived application of the principles vary with the amount of time the respondent spends in patient teaching?
6. Does the perceived application of the principles vary with the amount of formal education of the patient educator?
7. Does the extent to which these principles are applied vary with the area of study of the patient educator?
8. Does the extent to which these accepted principles are applied vary with the method of instruction (one-to-one or group)?

Organization of the Study

This report of the study is organized into five chapters. Chapter I introduces the study by presenting the problem, purpose, limitations, and definitions of terms pertinent to the study. Chapter II includes a review of related literature concerning patient education and adult

education. Chapter III reports the procedure used in the study, including the population and sample; development of the questionnaire; and procedure for collection and analysis of the data. Chapter IV presents the findings of the study. Chapter V is a summary of the study and presents conclusions and recommendations for further research.

CHAPTER II

REVIEW OF LITERATURE

The purposes of the study were (1) to identify the basic principles of adult education, and (2) to measure the extent to which accepted principles of adult education are applied in practice with adult learners in hospital patient education programs as perceived by patient educators. To fulfill this purpose, it was necessary to review available literature in adult education to identify the principles of adult education; to have a jury of leading adult educators validate that these were indeed the accepted principles of adult education; and finally to develop an instrument to measure the patient educators' perceptions of the application of these principles in patient education practice. Literature related to the study is reported under the general area of patient education and under the topics associated with each of the nine principles identified.

Patient Education

It has been said that some form of patient education has existed since health care delivery began (Chaisson, 1980). Some hospitals may have well-planned, well-coordinated and well-funded programs to help patients learn the skills and attitudes necessary to cope with their illness. Other hospitals, however, have no coordinated program and

patient teaching is done as a part of patient care (Hindthorne, 1978).

In 1975 the American Hospital Association (AHA) surveyed over 5,000 community, non-federal, short-term general hospitals. Of the 80.9 percent (4,669) who responded, only 57 percent (2,680) had even one program offering "activities with written goals and objectives for the patient and/or family during inpatient hospitalization." Only about half of those (1,218 or 45%) had a department responsible for coordination of patient education. The department listed most frequently as responsible for coordinating patient education was nursing and most of the other departments mentioned were education departments or education-related departments.

Only 143 hospitals employed one person as a full-time patient education coordinator. It was difficult to tell from an analysis of the job titles listed whether some of these were in actuality full-time patient education coordinators. The study indicated that "Hospitals with 300 to 399 beds had the highest percent of respondents listing a full-time coordinator" (AHA, 1975, p. 17).

Programs

The most common educational programs for adult patients in the 1978 AHA study were diabetic, heart attack, prenatal, preoperative, ostomy and post-natal. Diabetes was ranked the most common program in both the 1975 and the 1978 AHA studies. Heart attack programs moved from sixth in 1975 to second in 1978 (AHA, 1978).

In hospitals in the West South Central Region, which was the focus of the present study, the AHA 1978 study found the lowest percentage (48.6 percent) of adult patient education programs in the nation. This

figure compares with 90.5 percent for the Middle Atlantic Region which was the highest national percentage.

Research on patient education is limited. Chaisson (1980, p. 2) stated "the ultimate results of patient education efforts are illusory and difficult to measure." Brown (1977) pointed out that research on patients is difficult whether it involves a surgical procedure or whether it involves an education program because no health care professional wants to give less than what he or she believes is the best care.

Many of the studies of patient teaching used pre- and post-tests of knowledge of the disease involved to evaluate the effectiveness of the program. Others use readmission rates to evaluate effectiveness. Patients who understand how to cope with their illness were less likely to need to be readmitted to the hospital (Bunning, 1976). Patient education can reduce readmission as much as 75 percent (Chaisson, 1980, p. 5). Both of these measures indicated that patient education programs can be highly successful in increasing the patient's knowledge and in reducing readmissions. These measures alone indicated that patient teaching is cost effective (Green, 1976; Bunning, 1976).

Patient teaching offers a benefit far beyond cost effectiveness, however. Johnson (1979) used two groups of cancer patients with subjects matched on age, anxiety tests, Purpose in Life Test and knowledge of the disease. One group attended eight educational programs while the control group had no educational program. She found that the group attending the education program scored lower on psychological tests of anxiety and higher on the Purpose in Life Test as well as higher in knowledge of the disease.

The proceedings of the 1979 National Conference on Behavioral and Psychosocial Issues in Diabetes noted that one of the problems in patient education for the diabetic patient is that the

Diabetes education specialist, usually a nurse or dietitian, is often inadequately trained in education and evaluation methods and techniques as well as in new concepts of health education. The purpose of patient education is not only to inform but to develop and sustain patient motivation to implement appropriate health behaviors (Hamburg, 1979, p. xxi).

The extent to which a patient implements "appropriate health behaviors" is called compliance. It really means that the patient complies with or follows his or her doctor's orders or the health regimen prescribed by the doctor. The term compliance may have a negative connotation because it implies a passive following of orders. Elsesser (1978, p. 12) quoted Odgen when he stated "None of us want to be compliant. We want to be collaborative. We want to take part in our health care." Getting people involved in their health care means also that they must be involved in the learning.

Travis (1979, p. 99) reemphasized this idea in saying that content areas, while "naturally important," are not enough. "The most important issue is the 'process' of education. 'How' is more essential than 'what.'" In a recent Nursing Administration Quarterly forum on patient teaching and patient rights, Benedikter (1980, p. 83) pleaded for more research into the entire subject of patient teaching, "from methodology to effect." One way of analyzing the "how" of patient education is to look at how principles of adult education fit within the constraints of hospital patient education programs. This study is designed to obtain baseline data on the extent to which these principles are applied in patient education programs.

The first step in this analysis was to review the literature available in adult education to identify underlying principles. The summary of the literature reviewed is arranged to support and explain each of the nine principles identified as a result of this research.

Principle 1: Adults Maintain the
Ability to Learn

It was not always believed that the adult continued to learn or even could learn throughout life. Thorndike (1928), in his book, Adult Learning, was one of the first to report research which showed that the learning ability of older adults was only slightly less than that of young adults. Longitudinal studies following the same adult over a period of time have shown gains in conceptual thinking over time. This increase in the ability to form and use concepts is a basis for planning programs which emphasize problem solving abilities rather than rote memory.

Lorge (1955) conducted studies on timed versus untimed tests of learning in adults and found that the speed of learning did tend to decrease with age but the ability to learn did not. Welford (1977) found that older adults' performance on tests was slower and more deliberate than that of young adults but more accurate.

Recall and retention is affected as age increases but not necessarily due to decline in mental ability. Studies have shown that if information is meaningful, the ability to retain and recall it is stable (Moenster, 1972; Clark and Knowles, 1973. There was marked decline in retention with age when material was not meaningful to the learner (Wimer and Wigdon, 1953). Older adults, especially,

experience a memory deficit when they are trying to store new information at the same time they are trying to recall stored material.

Over the years, as adults acquire more information related to a topic, they can make more cross references and potential connections between new and stored information. As a result, older adults tend to expand the scope of search when trying to recall information, which takes more time and may result in greater interference with the new material to be learned (Knox, 1977, p. 436).

There is a strong association between educational level and the ability to learn (Blum and Jarvik, 1974). Jarvik (1975) also reported that deterioration in learning ability can result from mental and physical inactivity. Thus it seems important that the adult be presented with new ideas on a regular basis throughout life. Solomon (1978) found that the failure of health care personnel to hold an expectation that the adult patient could learn independence and autonomy may actually lead to learned helplessness on the part of the patient.

In summary, studies indicate that it is important that the patient educator believe that adults can learn the material presented to them and that they allow whatever time might be needed for them to do so. The material presented should be of interest to the patient for the best learning to occur.

Principle 2: Adults Are a Highly Diversified
Group of Individuals With Widely Differing
Preferences, Needs, Backgrounds,
and Skills

Among the factors which affect adult learning ability is the level of cognitive or structural development. A structural development theory was devised by Piaget (1972), classifying a part of intelligence

which Cattell described as crystallized intelligence. Cattell (1963) proposed a division of mental abilities or intelligence into two categories. Fluid intelligence is the term used for that part of intelligence which depends on heredity while crystallized intelligence is the dimension involving learned abilities to make judgements and find relationships. Fluid intelligence peaks during adolescence and would remain constant throughout life if it were not for the injuries to the nervous system which occur with accident and with degenerative diseases associated with aging (Whitbourne and Weinstock, 1979). Crystallized intelligence, on the other hand, continues to increase throughout adulthood (Cunningham, Clayton, and Overton, 1975). Schaie and Parham (1977) found that patterns of intellectual change in adults are not fixed. Both dimensions of intelligence identified by Cattell seem to be influenced by a number of factors.

Piaget's cognitive development theory begins with birth when the child begins to control his bodily movements. This first level is called sensorimotor and is the only level strictly tied to age. The second level is called "preoperational." Here a child begins to solve problems but uses intuition more than reason. At the next level, "concrete operations," the child can solve problems by manipulating concrete objects. The last stage of Piaget's theory is called formal operations and begins usually in adolescence. At this stage, abstract thought is possible.

Problems are solved at the formal operations level by making a hypothesis and objectively gathering data to test it. While children are limited to the first levels of structural development, adults may function at any level depending on the problem at hand (Whitbourne and

Weinstock, 1979). As children develop the ability to function at new structural or cognitive levels, they retain the ability to function at previous levels as well. Therefore, adults may solve problems by intuition, by manipulating actual objects or by abstract reasoning.

Arlin (1975) has suggested that a fifth stage of cognitive development exists beyond the stage of formal operations. This stage, termed problem solving, has as its basic characteristic discovering questions to ask rather than answering the given question. This includes creative thinking and the growth of new ideas involved in discovering problems to tackle.

Sequin (1979) tested the hypothesis that cultural deprivation, emotional problems and other factors could delay the development of higher levels of cognitive function. She studied adult basic education students and found many to be functional at the preoperational level. None of the students in her study were found to be working consistently at the formal operations level. Her study concluded with an analysis of the text materials used in the class. Few of the materials were suitable for use with students at this level of cognitive development. Most required some form of abstract reasoning. This would indicate that materials used for teaching/learning need to be adapted for some learners.

There has been considerable work done in trying to match specific types of learners to materials and teaching techniques which would be most successful for them. Cognitive style mapping is one method of attempting to ascertain the learner's strongest learning skills by analyzing the way he or she encodes, processes, and then decodes information (Nunney, 1978).

Saloman (1979) explained that persons who have difficulty working with words and phrases may use most of their "processing capacity" just decoding the information into their own mode of thinking. This leaves them little capacity to deal with the information itself or to integrate new knowledge into existing structures. Intelligence, in fact, has been described as "skill in a medium" (Olson, 1976). Cognitive development, individual differences in mode of thinking or processing information, and skills in various media are all factors influencing each person's style or pattern of learning.

Heun (1975) and her co-workers recommended a minimum of 70 percent match between a learner's preferred learning style and "the mode of response" demanded by the learning task at hand for efficient learning. "Every teaching method (book, lecture, cassette tape, communication game, etc.) has its own cognitive style" (p. 4). Nunney (1978) stated that at least five or six alternative teaching/learning techniques would be needed to match the variety of learning styles found in even a small group of 30 learners.

Another factor determining a person's learning style is field dependency. Donnarumma (1980) found in working with adult basic education students that field independent adults did significantly better on the General Education Development (GED) test than field dependent adults. Field independent persons are able to be more analytical and logical because they tend to look at a problem or situation without seeing the whole picture. Field dependent adults tend to see more of the whole picture and "be more global" in their outlook. The field dependent persons in this study were significantly more likely to drop out of basic education programs.

All these factors point to the advisability of using a variety of systems to present information. The use of multiple presentation methods also has the advantage that learning does not depend on receiving through one sense. This would be especially beneficial to those adults who suffer some loss of sensory capabilities, which is a trend associated with aging.

Principle 3: Adults Experience a Gradual Decline in Physical/Sensory Capabilities

Subtle physical changes associated with the aging process may begin in early adulthood and need to be considered when planning an environment for adult learning. Visual impairment, hearing loss and decline in reaction time are the most common physical conditions providing implications for teaching adults. Bischof (1969) stated that on the average, visual acuity is at its best somewhere between the middle teens and late twenties. In a review of literature, Whitbourne and Weinstock (1979) summarized other general trends in the aging eye which should influence the planning of the learning environment and more specifically the planning of educational media. The lens becomes more clouded with age, creating a need for more light in the learning situation and making adults so affected more susceptible to glare from the lighting.

The lens also tends to yellow with age causing a filter effect which makes the blues and violets less distinct and intensifies the yellows, reds and oranges. This means that visual aids will be more effective for adults so affected if colors are used which have sharp contrasts rather than subtle differences in tones and if the warm hues such as reds and oranges and yellows are emphasized.

Another trend in the eye which may occur with age is a loss of adaptation to darkness, which means the eye may need longer to adapt quickly to changes in light and dark. There is a tendency for the eye to be slower in changing focus (Whitbourne and Weinstock, 1979).

These general trends of gradual decline in the eye of the adult indicate a need for patient educators and indeed for all adult educators to provide adequate, diffuse light for the adult learner; to use visual aids which make use of sharply contrasting colors on the red and yellow side of the spectrum when possible; and to allow enough time for the adult learner's eyes to adapt when using media that involves low light such as a motion picture or slide program. Extra time is needed when using techniques which require the learner to change focus frequently such as looking from a flipchart or blackboard to the learner's individual notebook or pamphlet. Knox (1977) suggested that information be presented in both audio and visual forms to facilitate learning for those with a loss of visual capacity.

There is a general trend toward hearing loss with age. Timiras (1972) indicated that hearing reaches a peak around ten to fourteen years of age with a gradual decline after that. Knox (1977) stated there is a more rapid decline after about age 50 and that this leads to more difficulty in screening out interfering noises. Hearing loss may not be volume related but may be associated with clarity, so that understanding may be lost if the speaker is not distinct enough in enunciation. There may be a slowing of the auditory process which causes a slower response to sound (Rossman, 1976).

Auditory changes, like visual changes, may not affect everyone and losses are so gradual that individuals may compensate for them without

a conscious effort. In planning patient education programs it is important to: eliminate distracting noises if possible; speak more slowly with some adults; speak distinctly and face the learner in case the learner has unconsciously started to read the lips of the speaker to fill in for slight hearing loss. Norris (1977) pointed to the need for larger print and shorter reading assignments in many cases because some adults cannot read as well or as fast as when they were younger.

The last general trend associated with aging is a decrease in reaction time. Knox (1977) described reaction time as the time needed for the perception of the stimulus by the sense organ, transmission of information to the brain, and the selection of a response. Adults, however, seem to compensate for this reduced speed in response by increasing accuracy and attentiveness (Knox, 1977). The peak for reaction time is about age twenty with a gradual decline until at age fifty reaction time is approximately equal to the average of age fifteen (Timiras, 1972).

Another factor to be considered in planning patient education programs is a range of physical problems associated less with the normal aging process and more with a variety of chronic diseases. One of those problems is a reduction in circulation such as might be found in diabetes and heart problems. This causes poor distribution of body heat.

Learning in an unusually cold or warm setting will be particularly difficult for these adults. In order to facilitate learning, the patient educator should try to design a teaching/learning environment which minimizes the extent to which physical conditions and health can interfere with the patient's learning.

Principle 4: Experience of the Learner Is a
Major Resource in the Learning Situation

New learning is most effective when related to past experience. Dansereau (1978, p. 2) pointed out that learning material without "meaningfully relating it to other stored information," limits the facility with which such information can be retrieved at a later date.

Tulving (1973, p. 254) explained this concept further: "No retrieval can help access to a particular memory unless the cue and that target memory were encoded together initially." Therefore, it is important that learning be tied to past experience and to expected future use so that it can be retrieved and used without difficulty.

Knowles (1970) stated that adults have a wealth of experience which acts as a resource for both the individual's own learning and as a resource for group learning. As the learner has more experiences in which to integrate new learning, new application of the knowledge can be found.

Principle 5: Self-Concept Tends to Move From
Dependency to Independency as an Individual
Grows in Responsibilities, Experiences
and Confidence

Ingalls (1972) provided a good discussion of the changing self-concept that occurs as an individual matures. He stated that the self-concept of the child is that of being a dependent person. As children move toward adulthood, they become increasingly aware of the ability to make decisions for themselves. This change from a self-concept of

dependency to one of autonomy indicates that a person has achieved psychological maturity or adulthood. Because of this, adults tend to resent being put into situations that violate their self-concept of maturity, such as being treated with a lack of respect, being talked down to, being judged and otherwise treated like children.

McClusky (1970) provided one view of the implications self-concept can have for the adult education process. He stated that the prevailing view of society is that the major task of children is to go to school, study and learn, while the major task of the adult is to get a job and work. This results in the dominant thrust of society's expectations and the adult's self-expectation: that the learning role is not a major element in his or her life. McClusky's feeling is that this failure to internalize the learner role as a central feature of the self is a substantial restraint in the adult's realization of his learning potential. If and when adults think that studying, learning, and intellectual adventure are as much a part of life as their occupations and obligations to their families, they will be much more likely to achieve a higher level of intellectual performance.

Principle 6: Adults Tend to Be Life Centered in Their Orientation to Learning

The phrase "teachable moment" has been used as a way to explain the readiness of adults to learn those skills needed for the roles they perceive themselves as being about to enter. A classical example of this is the increased interest of expectant parents in nutrition and other health-related factors. Knowles (1970) pointed out that adults are motivated to learn things they need to know because of developmental

phases they anticipate will occur in their roles as workers, spouses, parents, organization members and so on. Breckon (1976) stated "a hospital stay usually becomes a 'teachable moment.'"

Pender (1974) did a study of 138 hospital patients involving interviews to determine how patients received information. Her results showed that "once the primary information needs of the patients were met concerning diagnosis, they were ready to assimilate information that would assist them in short- or long-term adaptation to their illness" (p. 267).

While changes in life roles may often bring about positive climates for learning, the hospitalization experience may separate the patient from the everyday roles and relationships that give life meaning. Bille (1980, p. 90) stated, "Hospitalization isolates the patients from their usual role and relationships, often resulting in a helpless, passive and dependent position." Schontz (1975) stated that the traditional role of "patient" is one of cooperativeness, compliance and passivity. This role may actually cause questions and concerns to be pushed to the subconscious mind of the patient.

The importance of roles, stages and crises of adult life have been studied for some time. Sheehy (1976) popularized the concepts presented by many researchers that adult life has developmental stages and predictable crises just as adolescence does. New literature on adult development still emphasizes stage theory, but postulates a continuous readiness to change throughout the maturing life of an adult (Whitbourne and Weinstock, 1979).

Principle 7: Adults Are Motivated to Learn
By a Variety of Factors

Roles are only one factor influencing readiness to learn and motivation to learn. A rather basic model of motivation is simply that the person experiences an increase in tension because of a deprivation of or need for something. This tension causes some action to obtain what is needed or to satisfy the need and thus reduce the tension:

Need - Action - Satisfaction

Maslow (1943) categorized needs as lower order needs such as need for food and shelter and higher order needs for social interaction or for esteem. It may be that those who most need adult education to make them better able to meet Maslow's "lower order" needs are those most affected by the barriers that may be present in the learning environment.

The drop-out rate is a real problem in some adult education programs; a rate as high as 84 percent has been cited in some programs (Sainty, 1971). In searching for a way to predict those students likely to drop out, Boshier (1973) theorized that those enrolling for reasons relating to a deficiency were most likely to drop out. Such deficiency-motivated persons would be operating at a lower level of need (according to Maslow's hierarchy), characterized by a concern for money and meeting basic needs; that is, essentially extrinsic motivation. The growth motivated adult would be operating at a higher level of need characterized by a desire for exploration, curiosity or expression: that is, basically intrinsic motivation.

Boshier described the deficiency-motivated adult as more dependent

on and more fearful of the environment and possibly more hostile if the situation threatens to "fail or disappoint." The growth-motivated learners would tend to be more "self-directed" and less dependent on the environment. They would be better able to cope with "inconsistency and disorder" and other barriers in the learning situation.

White (1962, p. 99) stated that each person has a need for "competence, mastery and control over his environment." Zahn (1969) explained that a person's failure to develop confidence in his ability to affect what happens to him leads to feelings of alienation and anomie. These feelings of being powerless over one's future can act as a barrier to learning. Zahn cited the work of Seeman which indicates that when a patient feels helpless to control the outcome of the disease process, he is not likely to learn the information necessary to control it.

There is evidence that there are three stages of role adjustment to living with chronic illness which could affect the planning of patient education. The first stage is denial. This stage is followed by an acceptance and over-emphasis where the patient masters the necessary skills for the new role. The last stage is an adjustment of the person's life as the new role is integrated into existing roles. Zahn (1969) pointed out that it is in the middle stage that patient education is most effective, while Gentry and Williams have indicated that heart attack patients are much more motivated to learn health-related information two weeks after the initial diagnosis than immediately after (Gentry and Williams, 1975). The time of hospitalization may only be the best time for patient education if the patient has adjusted to his illness. In those cases where the patient is to be dismissed from the

hospital before a readiness to learn has developed, it is essential that the patient be aided in identifying resources for further learning.

Principle 8: Active Learner Participation in
the Instructional/Learning Process
Contributes to Learning

Kidd (1959) stated that getting the learner actively involved is the most important single principle in adult learning. Knowles (1970) referred to this as "ego-involvement" in learning.

Dansereau (1979, p. 7) used learning strategy inventories with college students to conclude that many students "tend to receive information passively, and, consequently, do not integrate it into their existing cognitive structures."

Clark (1980, p. 58) reemphasized the effectiveness of participatory learning for patients. "The patient who participates in identifying the prioritizing problems, defining objectives and evaluation methods and establishing time frames is more likely to comply." She emphasized that this collaborative planning helps develop intrinsic reinforcement and motivation in the patient.

Knowles (1970) theorized that the quality and amount of learning are influenced by the quality and amount of interaction between the learner and his environment and

by the educative potency of the environment. The art of teaching is essentially the management of those two key variables in the learning process -- environment and interaction -- which together define the substance of the basic unit of learning . . . (p. 51).

Principle 9: A Comfortable Supportive
Environment Is a Key to
Successful Learning

Knowles (1970, p. 52) described a supportive learning climate or environment as being "characterized by physical comfort, mutual respect, mutual helpfulness." This concept of a learning environment with mutual respect and freedom reflects the writings of Edward D. Lindeman. He was influenced by the educational philosophy of John Dewey, and he evolved a humanistic view of education for adults. "In short, my conception of adult education is this: a cooperative venture in nonauthoritarian, informal learning, the chief purpose of which is to discover the meaning of experience" (Lindeman, 1926, p. 10).

This view of education is perhaps best exemplified in the present day by the work of Carl Rogers. Rogers speaks of facilitation of learning rather than teaching: "I have come to feel that the outcomes of teaching are either unimportant or hurtful" (Rogers, 1969, p. 63).

Milhollan and Forish (1972) explained that the facilitation of learning, unlike teaching, does not depend on any skill of the leader or on any other resources such as visual aids or tests. In fact, a facilitator of learning is primarily a resource to the learner. "As a living resource, the facilitator can only function in an interpersonal relationship with the learner. It is this relationship which, therefore, should be of prime importance in any educational setting" (p. 117).

To build this relationship, Rogers calls for an attitude of acceptance, valuing others, trust and empathetic understanding. The facilitator must do away with the highly directive role or facade of

"the teacher" (Milhollan and Forish, 1972). These are not just attitudes effective for facilitators of adult learning but are characteristic of effective teachers in general (Rogers, 1969).

Knowles (1970), Knox (1971), and Tough (1971), among others, discouraged an atmosphere of competition in which adult students are pitted against each other and the teacher poses as expert or judge. These authors contended this diverts the energies of the students from learning to defensive measures. A high level of emotional stress in the classroom tends to demoralize the adult and interfere with the learning process itself. Evidence of such stress would probably not be found in learning climates characterized by mutual helpfulness. Knowles (1970) stressed the importance of building relationships of mutual trust and helpfulness among the students as well as the teacher. This can be done by "encouraging cooperative activities and refraining from inducing competitiveness and judgementalness" (p. 52).

CHAPTER III

METHODOLOGY

The purposes of this study were (1) to identify the basic principles that underlie adult education programs as affirmed by authoritative sources and (2) to determine the extent to which patient educators perceive that these principles are applied in practice in hospital patient education programs. The study was conducted in four phases: (1) identification and validation of principles of adult education, (2) development of a data collection questionnaire, (3) procedures used by the researcher to obtain information from the patient educators, and (4) analysis of data.

Review of Literature

The first phase of the study was conducted by a six-person research team who comprehensively reviewed the available literature and other authoritative sources in adult education. Each team member reviewed literature in one or more of the following areas of adult education: philosophical, psychological, social and socioeconomic, cognitive, environmental, physical and methodological. This literature included textbooks, published reports of research, journal articles, and some unpublished doctoral dissertations. Statements and ideas from the literature were synthesized to tentatively identify underlying principles within adult education. For each of eight principles

identified in this preliminary synthesis, several short explanatory statements were extrapolated from the literature. These statements consisted of concepts further differentiating each principle and providing a basis for the formulation of items in the questionnaire (see Appendix A).

Refinement of the Principles

In the first phase of the study eight principles were identified and submitted to a jury of experts in adult education, who were asked to express agreement or disagreement concerning the importance of each principle. A modified Likert scale was employed to obtain this agreement or disagreement. The jury was also asked to respond in writing with suggestions as to modification of the principles to make them consistent with what they perceived as the basic theoretical orientation of adult education. Appendix A contains a listing of the initial review panel.

General agreement was expressed by this jury that the eight principles were indeed key to adult education and modification of some wording and addition of some concepts to the explanatory material was carried out in response to their input. In addition this jury suggested that a ninth principle warranted separate emphasis.

The research team concurred with this suggestion and included as Principle 7, "Adults are motivated to learn by a variety of factors." This principle focused on concepts which the team had previously included under Principle 2 (Diversity) and Principle 5 which dealt with adult readiness to learn and the adult's trend toward a life-centered

orientation to learning. See Appendix B for a refined list of the principles, explanatory cover letter and the names of the validation panel.

The refined version of the principles along with explanatory material was submitted to this second jury of experts to validate the importance of each principle. The members of the jury represented various backgrounds in adult education. Each member of this jury was asked to rate the importance of each principle on a modified Likert scale with values of 0 to 5. For purposes of this study, only principles receiving an average of 3.75 or more were considered to be among the valid principles underlying adult education. All nine principles received 4.50 or above for this validation of their importance in adult education.

Development of the Questionnaire

In this second phase of the study, the research team developed statements which represented the application of some aspect of each of the validated principles, using as a reference and model the Principles of Adult Learning Scale (PALS) instrument created by Conti (1979). These statements were used to design a questionnaire to assess the extent of application of the principles. The initial questionnaire contained 47 statements, four to six for each of the nine principles, randomly ordered and assigned numbers from 1 to 7. Respondents were asked to check how often they applied the activity described in each statement. A modified Likert scale was used which asked subjects to check whether they "Always," "Frequently," "Sometimes," or "Never" practiced that activity in their patient teaching. Respondents also had

the option of checking that the activity described was "Not Applicable" in their situation.

Definition and range for mean for each point on the scale were as follows:

- "Not Applicable" (0 to .49) - does not apply to respondent
- "Never" (.50 to 1.49) - respondent does not practice this action
- "Sometimes" (1.50 to 2.49) - respondent practiced this action a few times in the past year
- "Frequently" (2.50 to 3.49) - respondent practices this action more than does not practice it
- "Always" (3.50 to 4.00) - respondent consistently practices this action.

The statements in the questionnaire were adapted to make them suitable for the population to be surveyed by each member of the research team. The general term, "student," defined as "recipient of educational activities," was changed to trainee, patient or participant depending on the population being surveyed. The term "course," which was defined as "educational activity" was changed to "programs" for the surveys of industrial training and patient education. "Teacher," which was defined as "director of educational activities," became "trainer" for industrial training and "instructor" for the survey of patient education. The term classroom was changed to "learning environment" or "setting" for both patient education and for agriculture extension.

Field Testing and Refinement of Instrument

The questionnaire was field-tested and refined for the first time with input from 30 nurses, nurse aides and several allied health professionals, including inhalation therapists, physical therapists

and dietitians from the Stillwater Medical Center. The questionnaire was also given to adult educators in Oklahoma and revised in accordance with their input. A preliminary mailing to 47 hospitals in Missouri served to field-test and further refine the questionnaire.

Subsequent field-testing and refinement of items occurred an additional four times. The final, revised questionnaire is presented in Appendix C along with the cover letter used in the second mailing. At this point the total number of statements had been reduced to 45.

Validation of Placement of Questionnaire Statements Under the Related Principles

A panel of experts in adult education (see Appendix D) was asked to validate the placement of the questionnaire statements under the nine basic principles listed below:

- Principle 1. Adults maintain the ability to learn.
- Principle 2. Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills.
- Principle 3. Adults experience a gradual decline in physical/sensory capabilities.
- Principle 4. Experience of the learner is a major resource in the learning situation.
- Principle 5. Self-concept tends to move from dependency to independency as an individual grows in responsibilities, experience, and confidence.
- Principle 6. Adults tend to be life-centered in their orientation to learning.
- Principle 7. Adults are motivated to learn by a variety of factors.
- Principle 8. Active learner participation in the instructional/learning process contributes to learning.
- Principle 9. A comfortable supportive environment is a key to successful learning.

Each validator was asked to categorize the 45 statements under one of the nine principles. All but two items were placed under a principle with

70 percent agreement by panel members. Statement nine was placed under both principle 2 and 8, while statement 14 was placed under both principle 1 and 2, as can be seen below. Means for these statements, which represented only a 50 percent agreement by the validators, were therefore scored 50 percent under one principle and 50 percent under the other in each case.

There were four to six statements which related to the application of each of the nine principles. Each principle was assigned a code phrase or word to make the report of data easier. Each principle number, the code word, and the final placement of each statement from the questionnaire are presented below:

<u>Principle</u>	<u>Code</u>	<u>Statements</u>
1.	"ability to learn"	14,(17), 22,(26),30
2.	"diversity"	9,11,14,(27),31,37
3.	"physical change"	(10),(33),36,39,40
4.	"experience"	1,4,19,44
5.	"self-concept"	13,21,23,25
6.	"life-centered orientation"	3,8,15,24,28,43
7.	"motivation"	6,7,20,35,42
8.	"active participation"	5,9,16,18,29,34
9.	"supportive environment"	2,12,(32),38,41,45

Numbers in parentheses represent statements contrary to the principles of adult education. The scores for these statements were reversed for analysis.

Reliability

The questionnaire was checked for reliability by test-retest by individuals with backgrounds in nursing and patient care. Others in this group reflected backgrounds from industrial training, college teaching and agriculture extension. A correlation of .70 was obtained

for an average reliability coefficient.

Selection of Sample

Studies conducted by the American Hospital Association (AHA) in 1972 and 1975 indicated that patient education programs were growing rapidly during those years in nonfederal, short-term general hospitals (AHA 1972, 1975); however, the 1975 study omitted federal hospitals. The Veterans' Omnibus Health Care Act of 1976 and other Veteran's Administration (VA) programs should make the Veterans' hospitals leaders in this area (Elsesser, 1978). The AHA studies both indicated that hospitals of 200 beds or larger were more likely to have patient education programs. A preliminary mailing of the questionnaire to 47 hospitals in Missouri, showed that few hospitals with less than 250 beds identified themselves as having formal patient education programs. Consequently, this study was limited to all patient education programs in short-term general hospitals with 250 beds or more and in Oklahoma, Texas, Arkansas and Louisiana, which are the four states included in the West South Central region identified by the AHA. Federal hospitals were included if they were short-term general hospitals.

Collection of Data

The questionnaire was mailed to "Patient Education Coordinator" of each of the 105 hospitals listed in the 1979 American Hospital Association Guide to the Health Field which met the criteria of the study. Recognizing that not every hospital would have a designated

patient education coordinator, it was expected that a questionnaire addressed to the Patient Education Coordinator would reach the person most involved in patient teaching in each hospital.

A postpaid return envelope was enclosed and the envelopes were number coded to allow follow up on non-respondents. A second questionnaire with a personal letter was mailed to those hospitals which had not responded within two weeks after the first mailing. The second mailing was addressed to Inservice Education Directors asking for their aid in reaching the patient educators.

Sixty useable questionnaires were received. This represented 59 or 57% of the hospitals, since one hospital inservice director made copies of the questionnaire and returned four extra questionnaires from persons responsible for patient education programs. Seven hospitals returned letters indicating that they did not have a patient education program at the present time.

Analysis of Data and Statistical Procedures

Data from the study were analyzed in two parts. First frequency techniques were used to analyze the demographic data described in the sample. This analysis of demographic data yielded information about the programs offered, the use of group or one-to-one teaching methods, the number of coordinated programs, the respondents' time in their present job and time in the health field.

Secondly the responses representing the perceived application of the principles of adult education were analyzed. The mean for each of the 45 questionnaire statements was calculated. The means for each

principle were generated by combining responses for statements grouped by principle as shown previously. In addition, means were calculated by the following variables: size of hospital, type of ownership, program coordination, percentage of time spent in patient teaching, educational degree, area of study, and method of instruction.

One-way analysis of variance (ANOVA) was chosen as the method to determine if statistically significant differences existed between group means for each variable. Because this research relies heavily on the respondents' mean scores, ANOVA was indicated as the most appropriate way to test the statistical significance of differences found. ANOVA is best applied to data which meet the following assumptions: "(1) the scores must be from a genuine interval scale, (2) the scores must be normally distributed in the population, and (3) the variance in the treatment conditions or groups must be homogeneous" (Linton and Gallo, 1975, p. 127). Since one of the limitations of this study was that patient educators are not a well-defined population, it was not known to what extent the sample in this study represented the population.

Linton and Gallo (1975, p. 127) stated that "in most cases, violations of these assumptions, even fairly extreme ones, do not severely affect the outcome of the analysis of variance." They go on to state "Although tests have been developed to determine non-normalcy and heterogeneity of variance, we do not recommend their use. Many of them are less robust than the analysis of variance" (p. 127). Therefore, no tests were used in this study to determine the homogeneity of the variance within groups.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This chapter is organized first to present a description of the respondents, the hospitals they represent and the programs they offer. Second, this chapter presents the rank order of the mean scores of the principles, the mean scores of the individual questionnaire statements and a breakdown of the mean scores of the principles by variables. The material is organized as follows: (1) percentage of questionnaire response, (2) description of respondents, (3) grouping of statements under principles, (4) the mean value of individual statements and (5) breakdown by variable according to size of hospital, ownership of hospital, position title, program coordination, time spent, educational degree, area of study, method of instruction, time in present job and time in the health field.

Percentage of Questionnaire Responses

Out of 104 questionnaires sent to hospitals in the sample, 63 useable returns or 61 percent were utilized. The total number of useable responses received was from 59 hospitals. One hospital inservice director made copies of the questionnaire and sent back five responses from individual patient educators which were used in the study. Seven notes were received from inservice directors who did not fill out the

questionnaire because they had no patient education programs or were only beginning to set up such a program. These were not counted as respondents for the purposes of analysis of the data.

Description of Respondents

Questionnaires were sent to hospitals listed in the 1979 American Hospital Association Guide to the Health Field with 250 or more beds and in the West South Central Region (Oklahoma, Arkansas, Texas and Louisiana). Of these respondents, three stated that they had 249 or fewer beds. They were none the less accepted for the study as it was felt this represented only slight changes in the number of beds. The bulk of the responses were from the 250-499 bed group, of this group 34 or 57 percent, of the hospitals responded. The highest percent of response was from the 500 to 749 bed group. There were sixteen, or 69 percent, of this group who responded. The 750 to 1000 bed group has a 50 percent return rate with four returns. The 1000 or above group had a 62 percent return rate with 5 returns.

The ownership of the hospitals was categorized into private, church, Federal or other. Other usually indicated community or municipal ownership, but a few state hospitals were represented in this category. Of the private hospitals, nineteen, or 90 percent responded while seventeen, or 53 percent of the church hospitals responded. Of the Federal hospitals, eight, or 61 percent responded. Of the hospitals in the "other" category, nineteen or 52 percent responded.

The job titles of 20 of the respondents indicated that their primary responsibility was patient teaching. This was the largest group of the sample and was included in the category of patient

education coordinators although some had slightly different job titles. There were 16 respondents who had job titles indicating their primary responsibility was for staff training, and were grouped under the category of inservice education. The next largest group included clinical nurse specialists; seven respondents were in this group. In addition there were four education directors and four nurse educators. Other respondents included a physical therapist, a librarian, two directors of nursing, a medical continuing education director, two staff nurses and a coordinator of patient relations services. For the five groups which had the largest numbers, Table II shows the job titles of respondents along with the size of the hospital they work in.

TABLE II
RESPONDENTS' JOB TITLE AND HOSPITAL SIZE

Beds	Patient Education Coordinator N=20	Inservice Educator N=16	Education Director N=4	Clinical Nurse Specialist N=7	Nurse Educator N=4
249 or fewer Total N=3	1	1			
250-499 Total N=33	11	10	3	4	1
500-749 Total N=16	6	2		2	3
750-1000 Total N=4	1	1	1	1	
1000 or above Total N=4	1	2			

There were a wide variety of programs offered in the hospitals. One hundred percent of the respondents reported having patient education for diabetic patients. Sixty-nine percent reported having the patient education programs for stroke patients. About one-third reported they had both prenatal (30 percent) and postnatal (39 percent) programs. Twenty-three percent has ostomy programs. Fifteen percent reported programs for heart patients and seven percent had programs for persons suffering from hypertension. Among the hospitals reporting, there were a total of 33 patient education programs reported at least once. The total list of these programs and the number of times each was reported are listed in Appendix E. For the most frequent program offerings, see Table III.

TABLE III
FREQUENCY OF PATIENT EDUCATION PROGRAM OFFERED

Programs	Percent of Hospitals With This Program
Diabetes	100
Stroke	69
Postnatal	39
Prenatal	30
Ostomy	23
Heart	15
Hypertension	7

Most of the patient teaching in the study's sample was conducted on a one-to-one basis with individual patients. Table IV presents the frequency of patient education methods employed. Fourteen respondents reported they conducted most of their patient teaching in groups. Forty reported they conducted patient teaching mostly on a one-to-one basis. Nine respondents indicated that they utilized both one-to-one and group teaching. There was little difference in the use of one-to-one versus group teaching by persons with different job titles. The patient education coordinators and inservice educators were similar in that both groups utilized mostly the one-to-one patient teaching method. Only four patient education coordinators and three inservice educators indicated they did most of their patient teaching in groups. Four patient education coordinators and one inservice educator indicated that they used both one-to-one and group teaching.

TABLE IV
FREQUENCY OF PATIENT EDUCATION METHODS EMPLOYED

Method	N	Percent
Groups	14	23
One-on-One	40	63
Both	9	14

When method of patient teaching was compared for respondents from various size hospitals, some differences were found. Table V presents a breakdown of this information. A trend toward more group teaching was found in large hospitals (1000 or above), only a few of which were included in this study.

TABLE V
FREQUENCY OF PATIENT EDUCATION METHODS EMPLOYED
BY SIZE OF HOSPITAL

Size	Groups	One-to-One	Both
249 or less N=3	1 30%	2 66%	0 3%
250-499 N=3	7 20%	24 70%	3 9%
500-749 N=34	3 19%	7 44%	6 38%
750-1000 N=16	1 25%	3 75%	0
1000 N=5	3 60%	2 40%	0

Forty-one or 65 percent of the respondents reported they had a "coordinated patient education program." This compares to 49 percent of the hospitals in the 1978 AHA study who reported they had "a specific department designated to coordinate inpatient education." The

definition used in the present study indicated that the hospital had established a clear line of responsibility for patient teaching. No specific definition was included in the questionnaire and the responses may have reflected the lack of a widely accepted definition. Six respondents left this question blank and two replied with a question mark.

None of the 20 patient education coordinators in the study had been in their present position longer than five years. Half, or 10, had been in their present position less than a year, as was also the case for inservice educators. Only three of the 16 inservice educators had been in their present position more than five years. Seven had been employed in their present position less than a year.

The sample represented persons with many years of experience in the health field. One patient education coordinator had 25 years of experience in the health field while another individual had 30 years. The person with the most experience was an "Education Director" who had 36 years of experience. No pattern could be seen in the differences in "time in the health field" of patient education coordinators and inservice educators. Two years experience in the field was the least time reported in either group; responses were scattered from two to thirty years.

Analysis of Perceived Application of the Principles

Research Question 1: To what extent are the accepted principles of adult education being practiced in patient education programs in short-term general hospitals in the West South Central region? As was

described in "Validation of Placement of Questionnaire Statements Under the Related Principles" in Chapter III, each statement was placed by the panel of experts under the nine principles. After the mean for each of the 45 questionnaire statements was calculated, the means for each principle were generated by combining responses for statements grouped by principle as shown previously.

Each of the nine principles was rank ordered by mean. Table VI contains this rank order. The means range from a high of 3.32 to a low of 2.74. All nine principles had means to indicate the extent of use as "frequently."

Principle 9 (Supportive Environment) had the highest mean while Principle 3 (Physical Change) ranked second with a mean of 3.24. Principle 8 (Active Participation) had the lowest mean and Principle 1 (Ability to Learn) was next lowest.

When the standard error of the mean was calculated for each of the means of the principles, it was found that the difference between the means of principles adjacent to each other in the ranking were not significant. The means of principles with more than one rank difference were significant at the .05 level except the lowest ranked principle 8 (Active Participation) which was not significantly different from the adjacent principle 1 (Ability to Learn) or the seventh ranked principle 5 (Self-Concept).

These findings indicate that assumptions about the ability of adults to learn and the establishment of a learning process based on learner participation are not as common to these hospital patient teaching programs as such familiar clinical concepts as attention to the effects of physical change and the need for developing supportive

TABLE VI
RANK ORDER OF PRINCIPLES

Rank	Principle Number	Mean	Standard Deviation	Principle
1.	9	3.32	.39	A comfortable supportive environment is a key to successful learning.
2.	3	3.24	.43	Adults experience a gradual decline in physical/sensory capabilities.
3.	6	3.16	.44	Adults tend to be life-centered in their orientation to learning.
4.	2	3.07	.47	Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills.
5.	4	2.99	.57	Experience of the learner is a major resource in the learning situation.
6.	7	2.89	.47	Adults are motivated to learn by a variety of factors.
7.	5	2.80	.55	Self-concept tends to move from dependency to independency as an individual grows in responsibility, experience, and confidence.
8.	1	2.76	.55	Adults maintain the ability to learn.
9.	8	2.74	.37	Active learner participation in the instructional/learning process contributes to learning.

environments for learning. It is evident, however, that persons employed as patient educators in the West South Central region do perceive themselves as applying the principles of adult education at or above the "Frequently" level.

Analysis of Individual Statements

The individual questions were grouped under the nine principles and mean scores for application of the principles were the main thrust of the analysis of data. Only the five individual questions which were scored highest and the five which had the lowest mean scores are reported here. Table VII reports the means for all 45 questions. The computer program called for omitting, "Not Applicable" responses when calculating the means for the nine principles and the means for the individual questionnaire statements.

Several of the statements had responses indicating that the respondents felt that the item was not applicable. The most frequent responses were not applicable on 32, 42 and 44. Eleven respondents marked "Not Applicable" on question number 32, "Competition among patients is encouraged." Question 42, "An attempt is made to determine what causes people to attend programs offered," had nine "Not Applicable" responses and question 44, "Patients are encouraged to share their experiences with others in the group," had eight "Not Applicable" responses.

Question 38 had the highest mean scores (3.76) of all the statements on the questionnaire. This statement "Questions or comments offered by patients are treated with importance and given a sincere response," falls under Principle 9 (Supportive Environment).

TABLE VII
 MEAN SCORES OF INDIVIDUAL QUESTIONNAIRE
 STATEMENTS AND PRINCIPLES

Principle Mean	Principles of Adult Education	Question Mean
2.76	1. Adults maintain the ability to learn.	
	14 Patients are allowed to work at their own rate regardless of the amount of time it takes them to learn a new concept.	2.71
	*(17) Learning activities stress the student's ability to learn based on memorization.	3.15
	22 Patients are presented with new concepts on a regular basis.	2.49
	(26) A time limit is imposed when asking for recall of information and/or completion of tasks.	2.49
	30 Previously learned information is reviewed before new material is presented.	2.87
3.07	2. Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills.	
	9 Patients are encouraged to choose and use the most suitable means to accomplish their goals.	2.98
	11 Instructional objectives are adapted to match the individual abilities of the participant.	3.08
	14 Patients are allowed to work at their own rate regardless of the amount of time it takes them to learn a new concept.	2.71
	(27) The same materials are used for all patients.	2.66
	31 Cultural backgrounds of patients are considered when planning learning activities.	3.14
	37 Different instructional techniques are used depending on the material to be taught and the patient's needs.	3.27

TABLE VII (Continued)

Principle Mean	Principles of Adult Education	Question Mean
3.24	3. Adults experience a gradual decline in physical/sensory capabilities.	
	(10) The instructor uses subdued colors rather than sharp contrasts in visual aids.	2.66
	(33) The instructor speaks rapidly when instructing adults.	3.53
	36 Extra time is allowed for the eyes of the patients to adapt when visual information is presented.	2.86
	39 Adequate lighting is provided in the adult learning environment.	3.61
	40 The learning environment is adapted to the patients' physical needs.	3.25
2.99	4. Experience of the learner is a major resource in the learning situation.	
	1 Patients are helped to relate new learning to their prior experiences.	2.84
	4 The many competencies that patients possess are utilized to achieve educational objectives.	3.03
	19 Learning activities are planned to take into account the patient's prior experiences.	2.95
	44 Patients are encouraged to share their experiences with others in the group.	2.69
2.80	5. Self-concept tends to move from dependency to independency as an individual grows in responsibilities, experience and confidence.	
	13 Patient and instructor relate to each other as partners in learning.	3.00
	21 Students are encouraged to see themselves as the best judges of what they are learning.	2.63

TABLE VII (Continued)

Principle Mean	Principles of Adult Education	Question Mean
	23 Patients are encouraged to decide how well they are learning the material.	2.71
	25 Activities are planned that encourage independent learning.	2.59
3.16	6. Adults tend to be life-centered in their orientation to learning.	
	3 Programs are presented which are relevant to the current problems and needs of the various clientele served.	3.38
	8 Patients are helped to identify problems that they need to solve.	2.94
	15 Subject matter is related to problems of everyday living.	3.25
	24 The instructor presents knowledge and techniques which the patient can apply immediately.	3.14
	28 Learning activities are organized according to real life experiences.	2.94
	43 The program is designed to help people cope with recent or expected changes in their lives.	3.27
2.89	7. Adults are motivated to learn by a variety of factors.	
	6 An attempt is made to utilize the factors that keep the patients participating in offerings.	2.70
	7 Programs are scheduled at locations that provide the greatest accessibility to as many people as possible.	2.94
	20 Resources for further learning are identified and/or presented.	2.81
	35 Programs are arranged to minimize conflicts with other activities in which the target audience may be involved.	3.10
	42 An attempt is made to determine what causes people to attend programs offered.	2.79

TABLE VII (Continued)

Principle Mean	Principles of Adult Education	Question Mean
2.74	8. Active learner participation in the instructional/learning process contributes to learning.	
	5 Patients are included in making decisions about the material that will be covered.	2.49
	9 Patients are encouraged to choose and use the most suitable means to accomplish their goals.	2.98
	16 Patients are helped to diagnose the gaps between their goals and their present level of performance.	2.71
	18 Methods that foster discussion and class interaction are used.	2.90
	29 Patients are encouraged to have input into the various types of programs conducted.	2.64
	34 Patients are helped to develop short-range as well as long-range objectives.	2.94
3.32	9. A comfortable supportive environment is a key to successful learning.	
	2 Errors are accepted as a natural part of the learning process.	3.26
	12 The meeting room is arranged so that it is easy for participants to interact.	2.68
	32 Competition among patients is encouraged.	2.84
	(38)* Questions or comments offered by patients are treated with importance and given a sincere response.	3.76
	41 A comfortable and supportive environment is provided.	3.28
	45 Informal counseling of patients is offered where needed.	3.21

*() Indicates negative statement with scores reversed for analysis.

The two statements with the next highest means both fall under Principle 3 (Physical Change). Statement number 39 had a mean of 3.61 and statement number 33 had a mean of 3.53. These two statements had to do with providing adequate lighting for the adult learner and speaking slowly enough for adults to understand. The statement with the next highest mean was number 3 which falls under Principle 8 (Life-Centered Orientation). Statement 3, "Programs are presented which are relevant to the current problems and needs of the various clientele served," had a mean of 3.38. Statement 41, "A comfortable supportive environment is provided," was fifth with a mean of 3.28.

The statements which had the lowest mean scores were statements number 5, "Patients are included in making decisions about the material that will be covered," and number 22, "Patients are presented with new concepts on a regular basis." These statements tied for the lowest rank with a mean of 2.49. Statements number 25, "Activities are planned that encourage independent learning," and number 27 "The same materials are used for all patients," tied for the next to lowest with a mean of 2.59. Statement 27 is a negative statement and the mean shown had been reversed, however, 2.50 was the actual midpoint of the scale used, so little difference was seen when it was reversed.

Statement number 10, "The instructor uses subdued colors rather than sharp contrasts in visual aids, and number 26, "A time limit is imposed when asking for recall of information and/or completion of tasks," tied for the second lowest mean of 2.66. Again statement number 26 has been reversed for analysis. The actual mean of this statement was 2.34 which would indicate that the sample perceived that they do "sometimes" impose time limits on patients' learning.

Analysis of Application of Principles By
Different Groups in the Sample

The means for each principle were compared across various characteristics in the sample. Few statistically significant differences were found for any of the variables when analysis of variance (ANOVA) with a Duncan's Model test of significant differences between individual means was calculated.

Research Question 2: Does the extent which the accepted principles of adult education are applied vary with hospital size? Table VIII shows the results for hospitals of different sizes.

TABLE VIII
MEAN VALUES FOR EACH PRINCIPLE BY HOSPITAL SIZE

Principles	Below 249 N=3	250- 499 N=35	500- 749 N=16	750- 1000 N=4	1000- Up N=5
1. Ability to learn	2.77	2.74	2.68	3.00	2.92
2. Diversity	3.23	3.15	2.83	3.20	3.05
3. Physical change	3.40	3.24	3.20	3.33	3.11
4. Experience	3.00	3.05	2.82	3.06	2.85
5. Self-concept	2.83	2.94	2.53	2.62	2.60*
6. Life-centered orientation	3.05	3.22	2.98	3.41	3.06
7. Motivation	2.86	2.85	2.70	3.37	3.36*
8. Active participation	3.03	2.80	2.54	2.99	2.60
9. Supportive environment	3.38	3.29	3.24	3.70	3.34*

*There is a significant difference (at the .05 level) in the perceived application of these principles when the lowest score (in each case the 500-749 group) is compared to the highest score (the 250-499 group for Principle 5 and the 750-1000 group for Principles 7 and 9).

The 500 to 749 bed group scored consistently lower on the principles with the exception of Principle 3 (Physical Change) where the 1000 and larger hospitals had a slightly lower mean. There was a significant difference (at the .05 level) between the means for the 500 to 749 bed group and the 250 to 499 bed group for Principle 5 (Self-concept and the 750 to 1000 bed group for Principles 7 (Motivation) and 9 (Supportive Environment).

Perhaps one explanation for these results is that in small hospitals the patients might be personally acquainted with the hospital staff. No explanation was discerned for the responses of hospitals larger than 750 beds.

Research Question 3: Does the extent to which these principles are applied vary with the ownership of the hospital -- private, church, or federal? Table IX shows the means for the principles by type of ownership of hospital. Private hospitals scored lower than the other groups on the perceived application of Principles 1, 2, 3, 4, 5, and 9. The difference between the highest mean (Church-owned hospitals) and the private hospitals for Principle 9 was significant at the .05 level. The 90 percent return rate from the private hospitals compared to the 50 to 60 percent return rate from the other hospitals may have affected interpretation of the results. Perhaps the high return rate from private hospitals may reflect a heightened interest in patient teaching. This interest may be related to an increased interest in providing a comfortable supportive environment.

TABLE IX
MEAN VALUES FOR EACH PRINCIPLE BY HOSPITAL OWNERSHIP

Principles	Private N=19	Church N=17	Federal N=8	Other N=19
1. Ability to learn	2.67	2.85	2.86	2.71
2. Diversity	3.00	3.05	3.02	3.17
3. Physical change	3.17	3.29	3.22	3.27
4. Experience	2.93	3.03	3.00	3.00
5. Self-concept	2.63	2.88	2.78	2.89
6. Life-centered orientation	3.11	3.18	2.97	3.27
7. Motivation	2.80	3.00	2.71	2.95
8. Active participation	2.70	2.67	2.55	2.94
9. Supportive environment	3.21	3.47	3.35	3.27*

*The difference between the private hospitals and the church-owned hospitals on Principle 9 is significant at the .05 level.

Research Question 4: Does the perceived application of the principles vary with whether the program is coordinated or not? As Table X shows, the fact that a hospital had a coordinated patient education program appeared to make little difference in the perceived application of the principles. There were no statistically significant differences. The differences were slight and were not consistently higher for either the coordinated or non-coordinated programs. The greatest difference was for Principle 3 (Physical Change). Respondents from coordinated programs scored lower on this principle. Since eight respondents omitted this information, only 55 respondents are represented in the table.

TABLE X
 MEAN VALUES FOR EACH PRINCIPLE BY TIME SPENT
 IN PATIENT EDUCATION; BY COORDINATED OR
 NOT COORDINATED PROGRAMS

Principles	Time Spent		Coordination	
	50% or More N=31	Less Than 50% N=32	Coordinated Program N=39	Not Coordinated N=16
1. Ability to learn	2.77	2.75	2.78	2.69
2. Diversity	3.04	3.09	3.03	3.14
3. Physical change	3.31	3.15	3.20	3.33
4. Experience	3.01	2.93	2.98	2.99
5. Self-concept	2.73	2.83	2.78	2.78
6. Life-centered orientation	3.20	3.10	3.11	3.27
7. Motivation	2.93	2.84	2.85	2.93
8. Active participation	2.77	2.71	2.71	2.79
9. Supportive environment	3.41	3.22	3.33	3.32

Research Question 5: Does the perceived application of the principles vary with the amount of time the respondent spends in patient teaching? Table X also shows the mean scores for respondents who spent half or more of their time and for those who spent less than half of their time in patient education. The means were consistently slightly higher for those who spent more than half of their time in patient teaching for all the principles except for Principles 2 (Diversity) and 5 (Self-concept).

Research Question 6: Does the extent to which these principles are applied vary with the amount of formal education of the patient educator? Table XI shows the means for the respondents by educational degree. The level of education of the respondents was not associated with statistically significant differences in the means for the application of the principles. The data included 60 responses since three respondents did not include information about educational level. The greatest differences existed between the associate degree respondents and the other respondents for Principles 2 (Diversity) and 5 (Self-concept).

TABLE XI
MEAN VALUES FOR EACH PRINCIPLE BY RESPONDENT'S
EDUCATIONAL DEGREE

Principles	Associate Degree N=8	Bachelor's Degree N=25	Master's Degree N=26	Doctorate N=1
1. Ability to learn	2.75	2.74	2.73	2.88
2. Diversity	3.30	3.05	3.02	3.02
3. Physical change	3.37	3.28	3.16	3.23
4. Experience	2.81	3.05	2.97	2.83
5. Self-concept	3.03	2.74	2.76	2.75
6. Life-centered orientation	3.14	3.20	3.12	3.11
7. Motivation	2.86	2.84	2.93	2.93
8. Active participation	2.73	2.84	2.66	2.60
9. Supportive environment	3.26	3.32	3.31	3.27

Research Question 7: Does the perceived application of the principles vary with differences in the respondent's area of study? Table XII presents the mean scores of the perceived application of the principles of adult education by area of study. Persons with one or more degrees in nursing were compared to those who did not have a degree in nursing. In most cases if the respondent's degree was not in nursing, it was in education.

There were no significant differences between the responses. However, the respondents with at least one degree in nursing did tend to score higher on most of the principles. Principle 7 (Motivation) was the only exception to that trend, with non-nursing respondents scoring a few points higher.

TABLE XII
MEAN SCORES FOR EACH PRINCIPLE BY AREA
OF STUDY OF RESPONDENT

Principle	Nursing Background N=49	Non-Nursing Background N=14
1. Ability to learn	2.74	2.79
2. Diversity	3.07	3.05
3. Physical change	3.28	3.09
4. Experience	3.05	2.77
5. Self-concept	2.83	2.66
6. Life-centered orientation	3.18	3.08
7. Motivation	2.87	2.95
8. Active participation	2.79	2.59
9. Supportive environment	3.33	3.29

Research Question 8: Does the extent to which these accepted principles are applied vary with the method instruction (one to one or group)? Table XIII shows the means for the principles by method of instruction. There were no statistically significant differences by responses. There did appear to be a slight trend for those who did group teaching to score highest on the first six principles. Those who used both methods scored highest on Principle 7 (Motivation), second on Principle 8 (Active Participation) and last on Principle 9 (Supportive Environment).

TABLE XIII
MEAN VALUES FOR EACH PRINCIPLE BY METHOD
OF INSTRUCTION

Principles	Group N=15	One to One N=39	Both N=9
1. Ability to learn	2.84	2.74	2.69
2. Diversity	3.14	3.09	2.84
3. Physical change	3.29	3.27	3.21
4. Experience	3.11	2.98	2.83
5. Self-concept	2.86	2.79	2.69
6. Life-centered orientation	3.22	3.15	3.11
7. Motivation	2.90	2.87	2.92
8. Active participation	2.86	2.70	2.74
9. Supportive environment	3.32	3.34	3.29

Summary

There were no statistically significant differences found within these variable groups: Program coordination, percentage of time spent in patient teaching, educational degree, area of study and method of instruction. Significant differences were observed on some principles for hospital size and type of ownership. Although hospitals with 500 to 749 beds tended to score lower than all other categories; Principles 5, 7, and 9 were the only principles showing statistical significance. Private hospitals tended to score lower on most principles compared to other types of hospitals. The only statistically significant difference was found for Principle 9 (Supportive Environment).

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Discussion in this chapter is presented in three parts. The first section presents a summary of the study. The researcher's conclusions are presented next and implications for research and practice are discussed in the last section of the chapter.

Summary

The purposes of this study were (1) to identify the basic principles of adult learning that underlie adult education programs as affirmed by authoritative sources and (2) to determine the extent to which patient educators perceive that these principles are applied in hospital patient education programs.

Through a comprehensive literature review a research team of six individuals identified nine principles of adult education. These principles were validated by a jury of adult education leaders. From the validated principles, a questionnaire was developed to measure the extent of application of these principles. The questionnaire was verified, checked for reliability, and then adapted for the several populations studied by the research team. There were 45 statements on the questionnaire with four to six items related to each of the nine principles.

The research population of this study was composed of patient educators in hospitals of 250 beds or larger in the West South Central Region of the United States. Of the 104 questionnaires sent out, 70 were returned and 63 respondents reported having a patient education program.

One hundred percent of the respondents reported they had educational programs for diabetic patients, 69 percent had programs for stroke patients, 34 percent had postnatal programs and 30 had prenatal programs, and 23 percent had programs for ostomy patients. Thirty-three other programs were mentioned by the respondents at least once as being offered.

More than half (62 percent) of the respondents reported they did "most of their patient teaching on a one-to-one basis." Another 14 percent reported they utilized both one-to-one and group teaching methods. There was a trend for very large hospitals to use group methods but for all others to use one-to-one or both group and one-to-one methods.

Some additional characteristics of the respondents included the following information. Forty-one or 65 percent of the respondents reported they had a "coordinated" patient education program. Twenty of the respondents were patient education coordinators and 16 were inservice education directors.

The first research question was "To what extent are the accepted principles of adult education being practiced in patient education programs in short-term general hospitals in the West South Central region?" To answer this question the questionnaire statements were

analyzed to give a mean representing the perceived application of each of the nine principles. All the principles scored a mean of 2.50 or above (2.74 to 3.32) which was within the range defined as "frequently to always." Principle number 9 (Supportive environment) was scored highest with a mean of 3.32 which indicated a high perceived application value. The principle with the lowest mean was number 8 (Active participation which had a mean of 2.74).

The main thrust of the report of the research centered around the means representing the application of the principles. Only those individual statements from the questionnaire which had a mean score which was especially high or especially low were reported.

The statement on the questionnaire which had the highest mean score was number 38 with a mean of 3.76. This statement was "Statements or comments offered by participants are treated with importance and given a sincere response." Statements which had the lowest mean scores were statements number 5, "Patients are included in making decisions about the material that will be covered," and number 22, "Patients are presented with new concepts on a regular basis." These statements tied for the lowest mean score of 2.49.

Research question two through eight dealt with finding significant differences between the application of the accepted principles of adult education among the various groups within the sample. Both a one-way analysis of variance (ANOVA) and a Duncan's Model test of significant differences between individual means were calculated on the data to test the statistical significance of differences found. There were no statistically significant differences found within these variable groups: Program coordination, percentage of time spent in patient

teaching, educational degree, area of study and method of instruction. Significant differences were observed on some principles for hospital size and type of ownership. Although hospitals with 50 to 749 beds tended to score lower than all other categories, Principles 5, 7, and 9 were the only principles showing statistical significance. Private hospitals tended to score lower on most principles compared to other types of hospitals. The only statistically significant difference was found for Principle 9 (Supportive Environment).

Conclusions

1. This study identified nine basic principles of adult education which were validated by a panel of experts in the field.
2. The developed questionnaire can be utilized for analyzing perceived practices in patient education programs. Its primary value may be in developing an awareness of the application of the nine principles of adult education.
3. This study demonstrated that patient educators in the West South Central Region perceive themselves as "frequently" implementing all the principles of adult education identified in this study.
4. Adult educators working with patient educators may find that there is already a high degree of acceptance of principles associated with providing a supportive environment and adapting to the physical changes of aging. Principles accepted to a lesser degree were those principles associated with maintaining the patient's self-concept as an independent person, the adult's continued ability to learn, and learner participation. These principles which were applied to a lesser extent may prove to be an area where adult educators may have the greatest contribution to make to patient education as a developing profession.

Recommendations for Further Research

The results of this study have implications for research and practice. Some of the more important implications are as follows:

1. The present study dealt with the perceived utilization of the principles by the patient educator. Future research could concentrate on the actual utilization in the hospital setting, perhaps by the use of observation techniques.
2. The study could be conducted to examine the extent of principle implementation by physicians as well as allied health care professionals such as dietitians, physical therapists, and others.
3. Patients could be surveyed in a future study to determine their perception of the utilization of principles of adult education by patient educators.
4. Further research is needed to determine the influence of patient characteristics on the application of these principles by the patient educator.
5. Further research is also needed to determine if the principles are applied differently in programs for the different illness groups such as diabetic, ostomy, heart and stroke patients.

Implications

Patient education is a fast growing area of adult education. The results of this study indicated that the principles of adult education are widely accepted in the practice of patient education. Indeed four of the nine principles identified in the study were practiced at the

"Frequently" to "Always" range by respondents.

Each of these four principles dealt with concepts which are closely related to good nursing practice. Providing a supportive environment and recognizing that there is a gradual decline in physical/sensory capabilities with aging were principles of adult education which were perceived to be applied frequently in patient education. The principle recognizing that adults have a great diversity of needs, backgrounds, and skills and the principle emphasizing that adults tend to be life-centered in their orientation to learning were perceived as frequently applied in patient teaching. These principles are involved in the traditional definition of the role of the patient as passive.

The principles of adult education which were perceived as being applied to a lesser extent involve the concept of the learner or patient as an active, involved partner in learning and indeed in his or her own health care. The three principles which were perceived as being least applied dealt with the self-concept of adults as independent persons, the continued ability of adults to learn throughout life and with the benefits of active learner participation in the whole learning process. These principles represent an area where the image of the good patient as compliant with the medical regimen may be at odds with the principles of adult education identified by this study.

In this way, the study points to an area where collaboration between adult educators and patient educators may prove fruitful. There are indications that illness and the stress of hospitalization may be barriers to learning and that this factor, in combination with the trend to short periods of hospitalization may mean that resources need to be provided which allow patient education to extend beyond the time of

discharge from the hospital. Many patient education programs do extend into community service and either provide resources for the patient's further learning or help the patient identify resources for continued patient education. Adult educators, therefore, might fruitfully assist in the development of materials, whether modules or other learning units, which stress the patient's independent learning capacities.

"Active learner participation in the instructional/learning process contributes to learning" is the principle which scored lowest in the ranking of the principles by mean. It is understandable that it would be difficult to allow a patient to decide what he or she was going to learn in a situation which was essentially life threatening. As one respondent from the preliminary mailing stated, "I think you envision a different type of program than I have. I teach people what they need to know to survive."

There is real controversy in both adult education and patient education about how much the beginning student in a subject can participate in the selection of subjects and materials to be covered. Knowles (1981) states learners who know little about a subject may be by definition dependent learners. He goes on to explain, however, that the goal of education in that case should be to help the adult become an independent learner.

Those responsible for helping patients learn the skills and attitudes necessary to manage their illness, may very well find that some patients are dependent learners. This would be true especially if the health problem was a new occurrence in their lives. It would be hoped that patient educators could help the patient become a self-directed participant in the learning process. Principles of adult education

identified in this study point to the importance such interaction could have in helping patients develop the kind of intrinsic motivation needed to take charge not only of the changes in their life which result from illness, but also of their continued learning.

BIBLIOGRAPHY

- American Hospital Association Guide to the Health Care Field, 1979 Edition. Chicago: American Hospital Association, 1979.
- American Hospital Association Hospital In-Patient Education Survey: Findings and Analysis. ERIC Document No. ED 154 111, 1975.
- "American Hospital Association Research Capsules--No. 7." Hospitals, 52 (December 1, 1972), p. 102.
- Arlin, P. K. "Cognitive Development in Adulthood: A Fifth Stage?" Developmental Psychology, 11 (1975), pp. 602-606.
- Benedikter, Helen. "Patient Teaching: What We Have Done to It and Whether It's Worth It." Nursing Administration Quarterly 4, 2 (Winter, 1980), pp. 81-83.
- Bille, Donald A. "The Dilemma of Patient Teaching." Nursing Administration Quarterly, 4 (Winter, 1980), pp. 87-95.
- Bischof, Ledford J. Adult Psychology. New York: Harper and Row, 1969.
- Boshier, Roger. "Educational Participation and Dropout: A Theoretical Model." Adult Education, 23 (April 1973), pp. 255-282.
- Blum, J. E. and Jarvik, L. F. "Intellectual Performance of Octogenarians as a Function of Educational and Initial Ability." Human Development, 17 (1974), pp. 364-375.
- Breckon, Donald J. "Highlights in the Evolution of Hospital-Based Patient Education Programs." Journal of Allied Health, 6 (Summer, 1976), pp. 35-39.
- Brown, Andrew J. "Evaluation's Role in Patient Education." Health Education (January/February, 1977), pp. 6-8.
- Bunning, Richard L. "Patient Teaching: Implications for University Based Adult Educators." Adult Education, 28 (Winter, 1976), pp. 121-126.

- Caffarella, Rosemary S. "Opinions of Health Care Professionals Concerning Patient Education for the Inpatient Hospital Population, With Implications for Program Planning and Staff Development." Microfilm Copy. (Unpub. Ph.D. dissertation, Library, Michigan State University, 1978.)
- Cattell, R. B. The Scientific Analysis of Personality. Baltimore: Penguin Books, 1965.
- Chaisson, G. Maureen. "Patient Education: Whose Responsibility Is It and Who Should Be Doing It?" Nursing Administration Quarterly, 4 (Winter, 1980), pp. 55-60.
- Clark, L. E. and Knowles, J. B. "Age Differences in Dichotic Listening Performance." Journal of Gerontology, 28 (1973), pp. 173-178.
- Clark, Mary Dormady. "The Utilization of Theoretical Concepts in Patient Education." Nursing Administration Quarterly, 4 (Winter, 1980), pp. 55-60.
- Conti, Gary J. "Principles of Adult Learning Scale." (Presentation at Twentieth Annual Adult Education Research Conference, 1979.) Ann Arbor, Michigan: University of Michigan, 1979.
- Cunningham, W. R. V. Clayton, and W. Overton. "Fluid and Crystallized Intelligence in Young Adulthood and Old Age." Journal of Gerontology, 30, 1 (1975), pp. 53-55.
- Dansereau, Donald. "The Development of a Learning Strategies Curriculum." Learning Strategies. Ed. Harold F. O'Neil, Jr. New York: Academic Press, 1978, pp. 1-26.
- Donnarumma, Teresa, David Cox, and Hal Beder. "Success in a High School Completion Program and Its Relation to Field Dependence-Independence." Adult Education, 30, 4 (Winter, 1980), pp. 222-232.
- Elsesser, Lionelle. Patient Education. Chicago, Illinois: Medical Library Association, Inc., 1978.
- Fisher, Delbert. "Adult Education Theory in Health Education Practice." International Journal of Health Education, 19, 2 (1976), pp. 129-135.
- Gentry, W. and R. Williams. Psychological Aspects of Myocardial Infraction and Coronary Care. St. Louis: C. V. Mosby Co.
- Green, Lawrence W. "The Potential of Health Effectiveness Includes Cost Effectiveness." Hospitals, 50 (May 1, 1976), 56.
- Hamburg, Beatrix A., Lois F. Lipsett, Gale E. Inoff, and Allan L. Drash, eds. Behavioral and Psychosocial Issues in Diabetes: Proceedings of the National Conference. Washington: U.S. Government Printing Office, 1979.

- Heun, Linda, and Others. "Maximizing Individual Student Learning Through Cognitive Style Mapping." (Paper presented at the Annual Meeting of the Speech Communication Association, Houston, Texas, December 27-30, 1975.) ERIC Document No. 119 250.
- Hinthorne, Rita Andre, and Ruth Jones. "Coordinating Patient Education in the Hospital." Hospitals, 52 (June 1, 1978), pp. 85-88.
- Houle, Cyril. The Inquiring Mind. Madison, Wisconsin: The University of Wisconsin Press, 1961.
- Hyner, Gerald D. "Bridging the Gap." Health Education, (May/June, 1978), pp. 18-21.
- Ingalls, John D. and Joseph M. Areori. A Trainer's Guide to Andragogy. Waltham, Massachusetts: Data Education, Inc., 1972.
- Jarvik, L. F. "Thoughts on the Psychobiology of Aging." American Psychologist, 30, 5 (1975), pp. 576-583.
- Johnson, Judith Louise Bond. "The Effects of a Patient-Centered Educational Program on Persons' Adaptability to Live With a Chronic Disease. Microfich copy (Unpub. Ph.D. dissertation, Library, University of Minnesota, 1979.)
- Kidd, J. R. How Adults Learn. New York: Association Press, 1977.
- Knowles, Malcolm. The Adult Learner: A Neglected Species. Houston, Texas: Gulf Publishing Company, 1978.
- Knowles, Malcolm. The Modern Practice of Adult Education. Chicago: Association Press, 1970.
- Knowles, Malcolm. Personal Interview. Tulsa, Oklahoma, March 27, 1981.
- Knox, Alan B. Adult Development and Learning. San Francisco: Jossey-Bass, 1977.
- Leighton, Brian. "Developments: Some Influences on Classroom Teaching Behavior." Adult Education, 44, 2 (1976), pp. 92-95.
- Lindeman, Eduard C. The Meaning of Adult Education. New York: New Republic, 1926.
- Linton, Marigold and Philip S. Gallo. The Practical Statistician. Monterey, California: Brooks/Cole Publishing Company, 1975.
- Lorge, Irving. "Capacities of Older Adults." Ed. Wilma Donahue. Education for Later Maturity. New York: Whiteside and William Morrow and Co., Inc., 1955.

- McCaughrin, William Cass. "Legal Precedents in American Law for Patient Education." Patient Counseling and Health Education, Summer/Fall, 1979, pp. 135-141.
- McClusky, H. Y. "A Dynamic Approach to Participation in Community Development." Journal of Community Development Society, 1 (Spring, 1970), pp. 25-32.
- McCulloch, Carolyn, Billie J. Boggs, Charlotte F. Varner. "Implementation of Education Programs for Patients." Nursing Administration Quarterly, 4, 2 (Winter, 1980), pp. 61-65.
- Maslow, A. H. "A Theory of Human Motivation." Psychological Review, 50 (1943), pp. 370-396.
- Milhollan, Frank and Bill E. Forisha. From Skinner to Rogers -- Contrasting Approaches to Education. Lincoln, Nebraska: Professional Educators Publications, Inc., 1972.
- Moenster, P. A. "Learning and Memory in Relation to Age." Journal of Gerontology, 27 (1972), 361-363.
- Neugarten, Bernice. Middle Age and Aging. Chicago: University of Chicago Press, 1968.
- Norris, Robert. "Characteristics of Adults that Facilitate and/or Interfere With Learning." ERIC Document No. Ed 150 442, 1977.
- Nunney, Derek N. "Cognitive Style Mapping." Training and Development Journal, 32 (September, 1978), pp. 50-56.
- Olson, D. R. "Towards a Theory of Instructional Means." Educational Psychologist, 12 (1976), pp. 14-35.
- Pender, Nola J. "Patient Identification of Health Information Received During Hospitalization." Nursing Research, 23, 3 (May/June, 1974), pp. 262-267.
- Piaget, J. "Intellectual Evolution From Adolescence to Adulthood." Human Development, 15 (1972), pp. 1-12.
- Posavac, Emil J. "Evaluations of Patient Education Programs--A Meta-Analysis." Evaluation and the Health Professions, 3, 1 (March, 1980), pp. 47-62.
- Rogers, Carl. Freedom to Learn. Columbus, Ohio: Charles E. Merrill Publishing Co., 1969.
- Rossmann, Maxine Ellen. "Awareness of Adult Characteristics By the Faculty in the Maricopa County Community College District." Microfilm Copy. (Unpub. Ph.D. dissertation, Library, University of Michigan, 1977.)

- Sainty, Geoffrey E. "Predicting Drop-outs in Adult Education Courses." Adult Education, 21, 4 (1971), pp. 223-230.
- Saloman, Gavriel. Interaction of Media Cognition and Learning. Washington: Jossey Bass Publishers, 1979.
- Schaie, K. W. and I. A. Parham. "Cohort-sequential Analysis of Adult Intellectual Development." Developmental Psychology, 13 (1977), pp. 649-653.
- Schontz, Franklin C. The Psychological Aspects of Physical Illness and Disability. New York: Macmillan Publishing Co., 1975.
- Seguin, Barbara Rehmann. "Piagetian Cognitive Levels of Adult Basic Education Students Related to Teaching Methods and Materials." (Paper presented at the Adult Education Research Conference, Ann Arbor, Michigan, April 4-6, 1979.) ERIC Document No. Ed 167 829.
- Shaw, Jane. "New Hospital Commitment: Teaching Patients How to Live With Illness and Injury." Modern Hospital (October, 1973), pp. 99-102.
- Sheehy, Gail. Passages Predictable Crises of Adult Life. New York: Bantam Books, Inc., 1977.
- Solomon, Kenneth. "Social Antecedents of Learned Helplessness in the Health Care Setting." (Paper presented at the Conference of the Gerontological, San Francisco, California, November, 1978.) ERIC Document No. 174 874.
- Thorndike, E. L., E. O. Bregmen, J. W. Tilton, and Ella Woodyard. Adult Learning. New York: The Macmillan Company, 1928.
- Timiras, P. S. Developmental Physiology and Aging. New York: Macmillan, 1972.
- Tough, Allen. The Adult's Learning Projects. Toronto, Ontario: The Ontario Institute for Studies in Education, 1971.
- Travis, Luther. "Major Issues in Patient Education." Behavioral and Psychosocial Issues in Diabetes: Proceedings of the National Conference. Washington: U.S. Government Printing Office, 1979, pp. 99-102.
- Tulving, E. and D. M. Thomson. "Encoding Specificity and Retrieval Processes in Episodic Memory." Psychological Review, 80 (1973), pp. 352-372.
- U.S. Bureau of Health Education. Hospital Inpatient Education Survey Findings and Analysis, 1978. U.S. Department of Health and Human Services, 1980.

- Welford, A. T. Aging and Human Skill. London: Oxford Press, 1958.
- Whitbourne, Susan D. and Comilda S. Weinstock. Adult Development: The Differentiation of Experience. New York: Holt, Rinehart, and Winston, 1979.
- White, R. W. "Competence and the Psycho-sexual Stages of Development," Nebraska Symposium on Motivation. Ed. M. R. Jones. Lincoln: University of Nebraska Press, 1960, pp. 97-141.
- Wimer, R. E. and Wigdor, R. T. "Age Difference in Retention of Learning." Journal of Gerontology, 13 (1958), pp. 291-295.
- Zahn, Jane. "Some Adult Attitudes Affecting Learning Powerlessness, Conflicting Needs and Role Transition." Adult Education, 19, 2 (1969), pp. 91-97.

APPENDIXES

APPENDIX A
PRELIMINARY STATEMENTS OF PRINCIPLES
AND REVIEW PANEL

Directions:

Listed below are eight principles of adult education that have been identified from an exhaustive review of the literature related to adult education. Included with each are sample supportive statements which further define each of the eight basic concepts.

On the response sheet, place an X over the number which you feel most closely reflects your perception of the statement as an underlying principle of adult education.

1. Adults maintain the ability to learn.
 - a. There is a decline in the rate of learning but not in the ability to learn.
 - b. Age patterns and intellectual ability may vary among and within adults.
 - c. Exercise of the intellectual function tends to increase the capacity to learn.
2. Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills.
 - a. Adult development is continuous and multifaceted.
 - b. Categorical changes in adults cannot be predicted.
 - c. Adult learning styles are varied and require an eclectic approach.
3. Experience of the learner is a major resource in the learning situation.
 - a. New learning should be related to past experience.
 - b. Individual experience provides resources for group learning.
4. An individual's self concept tend to move from dependency to independency as responsibilities, experience, and confidence are built up.
 - a. The adult sees himself as being able to make his own decisions and face their consequences to manage his own life.
5. Evolving life roles and events influence adults' readiness to learn.
 - a. Adults tend to have an expectation of immediate application of knowledge.
 - b. Expectations for the future can be as important for motivation for learning as actual experience.

- c. Needs related to changes in life style and responsibility bring about teachable moments.
6. Active learner participation in the instructional/learning process is important.
- a. Adult learning occurs best when the student is motivated to identify needs, set goals, and evaluate progress.
 - b. The quality of learning is directly related to the quality of interaction within the learning environment.
 - c. Adults learn best when they become actively involved in the learning activities.
7. A comfortable supportive environment is a key to a successful learning experience.
- a. Physical conditions such as seating arrangements, room temperature, ventilation, and lighting have an impact.
 - b. The emotional atmosphere must be open, positive, and supportive of the adults' attempts to learn.
 - c. Instructor creates a nonauthoritarian climate with mutual respect and acceptance of differences.
8. There is a gradual decline in physical/sensory capabilities.
- a. Visual impairment, hearing loss, and decline in reaction time are the more common physical conditions that provide implications for adult learning.
 - b. There are general trends but these may not affect all students.

Initial Review Panel

Dr. Malcolm Knowles, Professor Emeritus, North Carolina State
University

Dr. Albert Campbell, Associate Professor of Adult Education, Texas A&M
University

Dr. Gene Whaples, Associate Professor, Adult and Continuing Education,
University of Maryland

Dr. Wendell Smith, Dean of Continuing Education Extension, University
of Missouri, St. Louis

APPENDIX B

REFINED PRINCIPLES AND VALIDATION PANEL

(COVER LETTER)

November 7, 1980

The School of Occupational and Adult Education at Oklahoma State University is conducting an exhaustive research attempting to (1) identify the basic principles underlying adult education programs, and (2) determine the extent to which that these principles are being utilized in a variety of adult learning settings.

Literature review has now been completed by a team to determine the repetition of various adult learning principles in research and in the recognized literature of the field. The following areas were covered in the comprehensive literature review:

- a. Philosophical background of Adult Education
- b. Cognitive factors in Adult Learning
- c. Psychological factors in Adult Learning
- d. Social/life cycle factors in Adult Learning
- e. Physiological/Environmental methodology for Adults
- f. Teaching/Instructional methodology for Adults

We need your help to verify and/or refute basic principles we have synthesized from the literature. Would you please review the nine statements on the enclosed questionnaire rating each statement as you feel appropriate? Thank you in advance for your cooperation.

Sincerely,

Marie Oberle
Graduate Student

MO/km

VALIDATION PANEL

1. Dr. Art Burrichter Professor of Adult Ed.,
Florida Atlantic University
2. Dr. Mary Grefe President, American Association
of University Women/Post
3. Dr. Roger Heimstra Professor of Adult Ed.,
Syracuse University
4. Dr. Carol Kasworm Assistant Professor Adult Education
University of Texas
5. Dr. Chester Klevins Dean of Continuing Education
City University, Los Angeles
6. Dr. Alan Knox Professor of Adult Education
University of Illinois - Urbana
7. Dr. Bianca Marguglia Department of Nursing
University of Hawaii at Monoa
8. Dr. Peggy Mezaros Associate Director of Home Economics
Cooperative Extension, Oklahoma State Univ.
9. Dr. Leonard Nadler Professor of Adult Education
George Washington University
10. Dr. Robert Reisbeck Extension Communications Training Specialist
Oklahoma State University
11. Dr. William Rivera Project Director Clearinghouse of
Resource for Educators of Adults
Syracuse University
12. Dr. Don Seaman Professor of Adult Education
Texas A&M University

PRINCIPLES OF ADULT LEARNING

Directions:

Listed below are nine PRINCIPLES OF ADULT EDUCATION that have been identified from an exhaustive review of the literature related to adult education. Included with each are *supportive concepts* which further define each of the nine basic principles.

Place an X over the number in the left margin which you feel most closely reflects your perception and acceptance of the statement as an underlying principle of adult education. There will be a total of nine responses--one for each numbered principle; the lettered concepts are explanatory in nature.

Use the following scale to respond. 1 is Not Acceptable, 5 is Acceptable.

Not Acceptable	Questionable	Undecided	Some Reservations	Acceptable
/	/	/	/	/

Not Accept- able	/	/	/	/	/	Accept- able
1	2	3	4	5		

1. ADULTS MAINTAIN THE ABILITY TO LEARN.

This principle includes the following concepts:

- a. *There is a decline in the rate of learning but not in the ability to learn.*
- b. *Age patterns and intellectual ability may vary among and within adults.*
- c. *Exercise of the intellectual function tends to increase the capacity to learn.*

Not Accept- able	/	/	/	/	/	Accept- able
1	2	3	4	5		

2. ADULTS ARE A HIGHLY DIVERSIFIED GROUP OF INDIVIDUALS WITH WIDELY DIFFERING PREFERENCES, NEEDS, BACKGROUNDS, AND SKILLS.

This principle includes the following concepts:

- a. *Adult development is continuous and multifaceted.*

- b. *Some categorical changes in adults cannot be predicted.*
- c. *Adult learning styles are varied and require an eclectic approach.*

Not					
Accept-	/	/	/	/	/
able	Accept-				
	able				
1	2	3	4	5	

3. ADULTS EXPERIENCE A GRADUAL DECLINE IN PHYSICAL/SENSORY CAPABILITIES.

This principle includes the following concepts:

- a. *Visual impairment, hearing loss, and decline in reaction time are the more common physical conditions that have implications for adult learning.*
- b. *The rates of decline for specific capabilities vary with each individual.*

Not					
Accept-	/	/	/	/	/
able	Accept-				
	able				
1	2	3	4	5	

4. EXPERIENCE OF THE LEARNER IS A MAJOR RESOURCE IN THE LEARNING SITUATION.

This principle includes the following concepts:

- a. *New learning is most effective when related to past experience.*
- b. *Individual experience provides resources for group learning.*

Not					
Accept-	/	/	/	/	/
able	Accept-				
	able				
1	2	3	4	5	

5. SELF-CONCEPT TENDS TO MOVE FROM DEPENDENCY TO INDEPENDENCY AS AN INDIVIDUAL GROWS IN RESPONSIBILITIES, EXPERIENCE, AND CONFIDENCE.

This principle includes the following concepts:

- a. *The adult sees self as being able to make own decisions and face their consequences to manage own life.*
- b. *Adults preconditioned by school experiences to perceive the role of learners to be dependent may need help in reconceptualizing the role of learner as self directed.*

Not				
Accept-	/	/	/	/
able				
	1	2	3	4 5

6. ADULTS TEND TO BE LIFE-CENTERED IN THEIR ORIENTATION TO LEARNING.

This principle includes the following concepts:

- a. *Activities and events in lives of adults have an impact on their involvement in learning experiences.*
- b. *Needs related to changes in life tasks and responsibilities bring about teachable moments.*
- c. *Adults tend to have an expectation of immediate application of knowledge.*

Not				
Accept-	/	/	/	/
able				
	1	2	3	4 5

7. ADULTS ARE MOTIVATED TO LEARN BY A VARIETY OF FACTORS.

This principle includes the following concepts:

- a. *The need to grow, as an individual, influences an adult's motivation to learn.*
- b. *Negative self-concept, fear of failure and inaccessibility of learning opportunities are some of the factors that may influence the degree of motivation.*
- c. *Expectations for the future can be as important for motivation for learning as actual experience.*

Not				
Accept-	/	/	/	/
able				
	1	2	3	4 5

8. ACTIVE LEARNER PARTICIPATION IN THE INSTRUCTIONAL/LEARNING PROCESS CONTRIBUTES TO LEARNING.

This principle includes the following concepts:

- a. *Adult learning occurs best when the student participates in identifying needs, setting goals, and evaluating progress.*

- b. *The quality of learning is directly related to the quality of interaction within the learning environment.*
- c. *Adults learn best when they become actively involved in the learning activities.*

Not				
Accept-	/	/	/	/
able				
	1	2	3	4 5

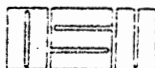
9. A COMFORTABLE SUPPORTIVE ENVIRONMENT IS A KEY TO SUCCESSFUL LEARNING.

This principle includes the following concepts:

- a. *An atmosphere that is open, positive, and supportive of the adult's attempts to learn enhances learning.*
- b. *A nonauthoritarian climate, with mutual respect and acceptance of differences, facilitates learning.*
- c. *Physical conditions such as seating arrangements, room temperature, ventilation, and lighting influence learning.*

APPENDIX C

FINAL QUESTIONNAIRE



Oklahoma State University

HUMAN RESOURCES DEVELOPMENT CENTER

STILLWATER, OKLAHOMA 74074
CLASSROOM BUILDING 406
(405) 624-6275

February 18, 1981

Dear Inservice Director:

The Human Resources Development Center at Oklahoma State University is doing a survey of how the practice of adult education changes in different settings. Hospital patient education, industrial training, college teaching and agriculture extension are all included in the study.

This survey covers Louisiana, Texas, Oklahoma and Arkansas. About one-third of the questionnaires are back and the early results look interesting.

I'm having trouble reaching the patient educators in many of the hospitals and have asked inservice directors to help. Would you please forward this to the patient education coordinator or patient educator in your hospital. If you do not have one person who coordinates patient education at your hospital, please pass this on to the person who does the most patient teaching or just fill out the demographic data on the back and return the questionnaire to me.

I appreciate so much your help and the help of the patient educators. I will be happy to send a copy of the results of the study if you enclose your name and address.

Sincerely,

Fay Woody

FW/bh
Enclosure

Dear Patient Educator:

Patient education is probably one of the fastest growing areas of teaching adults. For this reason patient teaching has been included in a study of adult education practices.

The Oklahoma State University School of Occupational and Adult Education is conducting an extensive study which will compare data from patient education, industrial training, college teaching and agriculture extension. This is the first study to begin looking at how the practice of adult education varies from setting to setting. Your input is extremely important.

The questionnaire contains numerous statements about teaching/learning activities for adults. This is a study of what works in your particular situation, and there are no right or wrong answers. Please indicate how often you practice the action described in the item. If you have additional information you would like to share or if you have trouble with the wording of any of the questions, please write in comments or make notes on the back.

Fay Woody
LaVera Fay Woody

ALWAYS
FREQUENTLY
SOMETIMES
NEVER
NOT
APPLICABLE

Please check appropriate response.

- | | | | | | |
|---|-----|-----|-----|-----|-----|
| 1. Patients are helped to relate new learning to their prior experiences. | () | () | () | () | () |
| 2. Errors are accepted as a natural part of the learning process. | () | () | () | () | () |
| 3. Programs are presented which are relevant to the current problems and needs of the various clientele served. | () | () | () | () | () |
| 4. The many competencies that patients possess are utilized to achieve educational objectives. | () | () | () | () | () |
| 5. Patients are included in making decisions about the material that will be covered. | () | () | () | () | () |
| 6. An attempt is made to utilize the factors that keep the patients participating in offerings. | () | () | () | () | () |
| 7. Programs are scheduled at locations that provide the greatest accessibility to as many people as possible. | () | () | () | () | () |
| 8. Patients are helped to identify problems that they need to solve. | () | () | () | () | () |
| 9. Patients are encouraged to choose and use the most suitable means to accomplish their goals. | () | () | () | () | () |
| 10. The instructor uses subdued colors rather than sharp contrasts in visual aids. | () | () | () | () | () |

	APPLICABLE	NOT	NEVER	SOMETIMES	FREQUENTLY	ALWAYS
Please check appropriate response.						
29. Patients are encouraged to have input into the various types of programs conducted.	()	()	()	()	()	()
30. Previously learned information is reviewed before new material is presented.	()	()	()	()	()	()
31. Cultural backgrounds of patients are considered when planning learning activities.	()	()	()	()	()	()
32. Competition among patients is encouraged.	()	()	()	()	()	()
33. The instructor speaks rapidly when instructing adults.	()	()	()	()	()	()
34. Patients are helped to develop short-range as well as long-range objectives.	()	()	()	()	()	()
35. Programs are arranged to minimize conflicts with other activities in which the target audience may be involved.	()	()	()	()	()	()
36. Extra time is allowed for the eyes of the patients to adapt when visual information is presented.	()	()	()	()	()	()
37. Different instructional techniques are used depending on the material to be taught and the patient's needs.	()	()	()	()	()	()
38. Questions or comments offered by patients are treated with importance and given a sincere response.	()	()	()	()	()	()
39. Adequate lighting is provided in the adult learning environment.	()	()	()	()	()	()
40. The learning environment is adapted to the patients' physical needs.	()	()	()	()	()	()
41. A comfortable and supportive environment is provided.	()	()	()	()	()	()
42. An attempt is made to determine what causes people to attend programs offered.	()	()	()	()	()	()
43. The program is designed to help people cope with recent or expected changes in their lives.	()	()	()	()	()	()
44. Patients are encouraged to share their experiences with others in the group.	()	()	()	()	()	()
45. Informal counseling of patients is offered where needed.	()	()	()	()	()	()

COMMENTS:

Please complete the following demographic data whether or not your hospital has a coordinated patient education program at this time.

1. My hospital has the following patient education programs
 - Diabetes
 - Heart
 - Prenatal
 - Postnatal
 - Stroke
 - Other _____
 - _____
 - _____
 - _____
2. Most of my patient teaching is done in groups one-to-one
3. My hospital has a coordinated patient education program yes no
4. Approximate size of my hospital (beds)
 - 100-249 250-499 500-749 750-1000 1000-Up
5. Ownership of my hospital may be classified as: Private Church
Federal Other
6. The type of my hospital is: Short-term General Long-term General
Long-term Specialty
7. My job title is: _____
8. Do you devote half or more of your time to patient teaching activities?
Yes No
9. How long have you been in your present job? _____
10. How long have you been in the health field? _____
11. List all degrees attained and areas of specialization: _____

12. Have you participated in any of the following which helped prepare you for teaching the adult? Workshops Inservice Conferences Courses
Formal Degree Program Other _____

TO MAIL POST PAID, USE ENCLOSED ENVELOPE. IF YOU WANT A COPY OF THIS RESEARCH, PLEASE INCLUDE YOUR NAME AND ADDRESS.

APPENDIX D

PLACEMENT OF QUESTIONNAIRE STATEMENTS
UNDER PRINCIPLES

PRINCIPLES OF ADULT LEARNING

Please categorize each of the following questions into one of the nine principles of Adult Learning listed on the separate page. These principles have been identified from an exhaustive and comprehensive review of the literature. Mark the number of one principle at the left of each of the 45 questions. The questions will be used in different adult learning settings, so assume the instructor/student nomenclature to be appropriate for your particular situation (instructor/patient, facilitator/learner, etc.). Please note that some of the items may be stated in a manner contrary to accept principles of adult learning. The first question has been categorized as an example.

- 4 1. Students are helped to relate new learning to their prior experiences.
2. Errors are accepted as a natural part of the learning process.
3. Programs are presented which are relevant to the current problems and needs of the various clientele served.
4. Knowledge and competencies that students possess are utilized to achieve educational objectives.
5. Students are included in making decisions about the material that will be covered.
6. An attempt is made to utilize the factors that keep students participating in offerings.
7. Programs are scheduled at locations that provide the greatest accessibility to as many people as possible.
8. Students are helped to identify problems that they need to solve.
9. Students are encouraged to choose and use the most suitable means to accomplish their goals.
10. The instructor uses subdued colors rather than sharp contrasts in visual aids.
11. Instructional objectives are adapted to match the individual abilities of the student.
12. The meeting room is arranged so that it is easy for students to interact.
13. Students and instructors relate to each other as partners in learning.

- _____ 14. Students are allowed to work at their own rate regardless of the amount of time it takes them to learn a new concept.
- _____ 15. Subject matter is related to problems of everyday living.
- _____ 16. Students are helped to diagnose the gaps between their goals and their present level of performance.
- _____ 17. Learning situations stress the student's ability to learn based on memorization.
- _____ 18. Methods that foster discussion, involvement, and class interaction are used.
- _____ 19. Learning activities are planned to take into account the students' prior experiences.
- _____ 20. Resources for further learning are identified and/or presented.
- _____ 21. Students are encouraged to see themselves as the best judges of what they are learning.
- _____ 22. Students are presented with new concepts on a regular basis.
- _____ 23. Students are encouraged to decide how well they are learning the material.
- _____ 24. The instructor presents knowledge and techniques which the students can apply immediately.
- _____ 25. Activities are planned that encourage independent learning.
- _____ 26. The same materials are used for all students.
- _____ 27. A time limit is imposed when asking for recall of information and/or completion of tasks.
- _____ 28. Learning activities are organized according to real life experiences.
- _____ 29. Students are encouraged to make input into the various types of programs conducted.
- _____ 30. Previously learned information is reviewed before new material is presented.
- _____ 31. Cultural backgrounds of students are considered when planning learning activities.
- _____ 32. Competition among students is encouraged.
- _____ 33. The instructor speaks rapidly when instructing adults.

- _____ 34. Students are helped to develop short-range as well as long-range objectives.
- _____ 35. Programs are arranged to minimize conflicts with other activities in which the target audience may be involved.
- _____ 36. Extra time is allowed for the eyes of the students to adapt when visual information is presented.
- _____ 37. Different instructional techniques are used depending on the material to be taught and the student's needs.
- _____ 38. Questions or comments offered by students are treated with importance and given a sincere response.
- _____ 39. Adequate lighting is provided in the adult learning environment.
- _____ 40. The learning environment is adapted to the student's physical needs.
- _____ 41. A comfortable and supportive environment is provided.
- _____ 42. No attempt is made to determine what causes people to attend various programs offered.
- _____ 43. The program is designed to help people cope with recent or expected changes in their lives.
- _____ 44. Students are encouraged to share their experiences with others in the group.
- _____ 45. Informal counseling of students is offered where needed.

COMMENTS:

List of Validators

Dr. Margaret Callsen
Assistant Professor
Oklahoma State University

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

Dr. Neal Chalofsky
Assistant Professor
Adult Education
Virginia Polytechnic Institute
and State University

Dr. Dan Gardner
Assistant Professor
Adult Education
Florida Atlantic University

Dr. Mike Hannah
Urban Extension Agent
Oklahoma State University

Dr. Ken McCullough
Associate Professor
Adult Education
University of Tennessee

Dr. Harvey Nye
Director of Extension
Tinker Air Force Base

Dr. John Peters
Professor
Adult Education
University of Tennessee

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

Dr. Doug Smith
Associate Dean
Continuing Education
Drake University

Dr. Wendell Smith
Dean of Continuing Education/Extension
University of Missouri-St. Louis

APPENDIX E

LIST OF PROGRAMS OFFERED

Alcohol Abuse
Allergy
Anti-Coagulants
Arthritis
Asthma
Burn
Caesarean Section
Cancer
 Coping With Cancer
 Oncology
Casted Extremities
Diabetes (63)
Drug Abuse
Enterostomal Therapy
Heart (9)
Hypertension (5)
Hysterectomy
Joint Protection and Body Mechanics
Laryngectomy
Natal-Prenatal (19)
 Postnatal (24)
Natural Family Planning
Neural
Nutrition
Mastectomy (2)
Mouth Care
Obesity
Open Heart
Orthopedic Problems
Ostomy (14)
Relaxation
Renal (1)
 Dialysis (1)
Respiratory ICU
Spinal Cord Injury
Stress Management
Total Hip Replacement (2)
Trachostomy Care
Surgical - pre and post (1)
 pre (4)

VITA

LaVera Fay Woody

Candidate for the Degree of

Doctor of Education

Thesis: ANALYSIS OF PERCEIVED ADULT EDUCATION PRACTICES IN
PATIENT EDUCATION PROGRAMS

Major Field: Occupational and Adult Education

Biographical:

Education: Received Bachelor of Science in Food and Nutrition from Southwest Missouri State University in 1968; received Master of Science in Human Nutrition from Oklahoma State University in 1973; completed requirements for Doctor of Education degree at Oklahoma State University in May, 1981.

Professional Experience: Post production manager for Conversations With Exceptional People, a curriculum development project sponsored by the Deans' Grant, College of Education, Oklahoma State University, 1981; Assistant to Inservice Director at Stillwater Medical Center, 1980. Developed the following videotapes: Code Blue - Room 403, Bathing Your New Born, Administering an EKG, How to Apply Traction; Dietitian, Caney Municipal Hospital, Caney, Kansas, 1973-1975; Food Service Supervisor, Baptist Hospital, Oklahoma City, Oklahoma, 1969-1971. Nutritionist, the Missouri Division of Health, Jefferson City, Missouri, 1968-1969.