AN ANALYSIS OF ADULT EDUCATION

PRACTICES IN BUSINESS AND

INDUSTRY

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in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
July, 1981

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AND INDUSTRY

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ACKNOWLEDGMENTS

I wish to express my appreciation and thanks to my committee members who helped make this accomplishment possible: Dr. Waynne James, thesis adviser; Dr. Cecil Dugger, committee chairman; Dr. Deke Johnson; and Dr. Zed DeVaughan.

A special thanks goes to the research team, Fay Woody, Marie Oberle, Elizabeth Price, and Joe Gerling.

I appreciate the assistance of the people in business and industry who spent their valuable time in answering the questionnaire.

I am grateful to the Department of Occupational and Adult Education for their support and cooperation. Thanks goes to Jackie Talmadge for typing this thesis.

To my family, especially my wife Robin, I am thankful for their support and encouragement.

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INTRODUCTION

It takes intelligent citizens to actively participate in society and to effectively maintain and further the social order that helps people mature and contribute toward the civilizing process. Intelligent action such as this depends on knowledge according to Bergevin (1967). If a citizen knows the direction that society is moving, in both specific and broad terms, he can then make an effective contribution. But, he must know what his society is, and what are the objectives in order to assist culturally, vocationally, or spiritually. The philosophy of citizen education, or adult education, is to provide knowledge for the development of free, creative, responsible, and intelligent citizens.

The role that adult education plays in society provides one of the strengths which broadens the philosophical scope of education (Black, 1974). Educational philosophy now includes the premise of providing learning opportunities throughout each person's lifetime. Kneller (1964) states that all philosophy derives from its own experience and, there, educational philosophy derives from the experiences of education. The relevance of this statement is consistent with a basic tenet that the philosophy of adult learning also derives from the experiences of adult learners. Today, throughout the world, people are undertaking lifelong learning activities in industry, in schools, in churches, in

hospitals, and in community settings. The common thread in all these learning activities is that the learners are all adults--all ages, all backgrounds, and all levels of intelligence. There has been much written on adult learning and there has been much research conducted on adult learning situations, on how adults learn, on why adults learn, and on how to teach adults. But, there has been very little correlating of the concepts and assumptions found in the literature and in the basic research against practicality in the world. There have also been gathered, over the years, some common principles related to adult learners. These principles have not been totally verified, fully tested, nor even routinely accepted into the socializing process of higher education nor into training programs performed by all types of societal institutions.

Our society is success oriented--the epitome of each individual and of each organizational entity is to be successful. Training and educational programs also have this goal, but there are different levels of success, and too often people become satisfied at a level lower than they could be satisfied. If there is no adherence to known and verified principles pertaining to adult learners in the development and implementation of our educational programs, success must be at a lesser level than it could be. By attending to these principles, contributions to the civilizing process and to national productivity could be made. Individuals will also be assisted in their cultural, vocational, political, or spiritual development.

The Problem

The field of adult education is conceptually based on carefully derived, and literarily supported principles pertaining to adult learning theory, adult development theory, and adult physical acuity. The principles as compiled and identified for this study were as follows:

1. Adults maintain the ability to learn.

2. Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills.

3. Adults experience a gradual decline in physcial/sensory capabilities.

4. Experience of the learner is a major resource in the learning situation.

5. Self-concept tends to move from dependency to independency as an individual grows in responsibilities, experience, and confidence.

6. Adults tend to be life-centered in their orientation to learning.

7. Adults are motivated to learn by a variety of factors.

8. Active learner participation in the instructional/learning process contributes to learning.

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

Success or failure of a particular adult education program then will depend on how well these principles are attenuated. The problem is that training and education programs in industry and corporate organizational settings may not be aware of or pay attention to these basic principles, resulting in suboptimal program successes.

Purpose of the Study

The purpose of this study was to investigate the extent to which adult education principles and concepts were utilized in the training

programs in selected industrial and corporate organizational settings. To accomplish this purpose, the following study objectives were established:

1. What were the basic principles about adult learning which underlie adult education programs?

2. To what extent were these principles implemented in selected training programs?

Scope and Limitations

This study reviewed and compared training programs in selected public and private settings throughout the state of Oklahoma. Company size, type, activity classification, and location were recorded in the accumulation of raw data. These variables were treated as situational and not judged as relevant in determination of training processes.

This study also did not attempt to determine the individual validity, the effectiveness, or the extent of training programs. Cursory interviews and research into the literature indicated that the use of company-type training programs was widespread and represented a normal situation.

Definition of Terms

The research team used these terms throughout the project. These definitions were compiled from the literature and from discussions with authoritative sources.

Adult - A person who has come into that stage of life in which he has assumed responsibility for himself and usually for others, and who has concomitantly accepted a functionally productive role in his community.

Adult Education - Includes all educational programs for adults who have assumed some of the major responsibilities of adulthood (such as job, family, voting) who are no longer full-time students but who engage on a part-time basis in a systematic and sustained program designed to alter knowledge, skills, and attitudes.

Andragogy - A set of teaching practices creating a process for helping students to become self-directed learners.

Authoritative Source - Researcher, published works in journals, textbooks, recognized leaders in the field of adult education.

Career - The sequence of occupations held by a person throughout the working years.

Cognition (Cognitive) - How events are understood, learned from, remembered, and thought about.

Course - A program, series, seminar, or set of learning activities following a given curriculum.

Instructor - A teacher, facilitator, program director, or any other person in charge of an adult training program.

Learning - The process of acquiring information in a new content area or mastery of a skill or technique.

Participant - A trainee, student, learner, patient who is attending a learning experience.

Principle - An accepted or proposed rule of action or conduct. A fundamental doctrine or tenet; a determining characteristic of something, essential quality.

Organization of the Study

Chapter I introduces the study, presenting the problem, purpose, objectives, limitations, and definition of terms. Chapter II includes a review of related literature concerning adult learning and education, adult development, and industrial and corporate training programs. Chapter III reports the procedures utilized in this study, including the population and sample; instrumentation; the expert jury procedures, and the data analysis. The interpretation of data and the findings of the study are presented in Chapter IV. Chapter V includes a summary of the study, conclusions, and recommendations for further research and practice.

CHAPTER II

REVIEW OF THE LITERATURE

There are three basic kinds of literature reviewed in this study. The types of literature are: (1) general adult learning and adult educational program literature, (2) literature pertaining to adult development, and (3) literature dealing specifically with industrial and corporate organizational training.

Adult Learning and Education Literature

The adult education literature addressed by the modern practice of adult education gives tremendous credence to a specific pattern of program development. This pattern is strongly advocated as one most conducive to adult learning. The pattern implies the basic understanding that adults can learn; a premise tested and verified over several decades of time. One of the earliest researchers who investigated perspectives of learning in adults was Thorndike (1928). His noted publication, Adult Learning, drew conclusions which have been subsequently tested and today still draw considerable support. Although his research population ranged from 14 to 50 years of age, and may seem limited in scope by today's standards, his conclusion that adults can learn at nearly the same rate and in nearly the same manner as they could have when they were younger has been validated again and again. Thorndike's studies repudiated the idea that there are declines in

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intellectual capacity as one grows older and that aging significantly affects the ability of adults to learn. Thorndike's studies, and others who were associated with him, acknowledged that performance could be reduced because of changes in a person's sensory acuity, self-concept or value shifts, goals, motivations, and responsibilities, but that aging had little affect on the person's ability to learn or to think.

From these studies evolved theories of lifelong learning (Lindeman, 1926). Learning, therefore, was not merely possible, but necessary. Solving problems and maturing were seen as basic life dimensions and learning activities were constantly required in order to accomplish these. Lindeman further examined the values of man's creativity and contended that continued learning was necessary to keep creativity alive and vigorous. These early concepts were expanded and verified years later when it was found that although adulthood had its transition points and crises, the necessity to grasp new concepts, make changes, and learn throughout life was a key ingredient to being able to cope (Havighurst, 1972).

The basic and probably most reported tenet in the field of adult education is the idea that adults can learn. Contemporary authors report this finding and the tone throughout the literary years never changes. Learning is a condition of the healthy organism (Kidd, 1977). Bergevin (1967) stated that adult education could not be a fad nor a luxury because of the fact that an informed citizen must continually learn in order to participate actively and constructively. He further believed that the continuing education of adults was a determing

factor in the race between building and destroying, between the civilizing process and barbarism.

It may be now appropriate to cursorily review some of the learning theories that have widespread currency. Learning theory is a rich and complex field and it is readily recognized as changing as new investigations occur. There are essentially two broad areas of speculation about learning theory: Humanism and Behaviorism.

Humanistic theories of learning are developed around the central concept that the individual is in control of his own learning behavior. Maslow, (1943) Silberman et al. (1972) and Combs (1974) all specified the view that internal controls were primary over external factors such as environment, schools, and teaching. Piaget's (1972) schema where every new piece of knowledge is placed into the individual's established organization of knowledge, further supported the humanist theories. Humanism recognized the needs and status of the individual who chooses to learn (Rogers, 1969), and thus was particularly responsive to a concept of adult educaiton.

Behaviorist theories were based on the premise that an individual learns from environmental, external sources rather than internalized controls. Bandura (1969) and Skinner (1968, 1971) claimed that behaviorism was substantiated many times in the research. In spite of this fact, there were others, such as Piaget, who declared that behaviorism has developed successful applications to adult learning, especially those in the areas of self-paced or individualized transaction.

Another condition or tenet of adult education repeatedly receiving comment was the idea that adults must be actively involved in

order to learn. Kidd (1977) even stated that this idea, that the learner be actively involved, was the most important single principle in adult learning. Bergevin and McKinley (1965) advocated that adults learned best when they became actively involved in the learning experience. They developed a widely used training program based on this principle, called "Participation Training" (Bergevin and McKinley, 1965). Knowles (1970) called this type of engagement "Ego-Involvement" and rated the principle as high as he rated the importance of good environment in his keys to success.

By understanding that adults can learn and that they learn best when involved in their own learning process, Lindeman (1927) was one of the first to contend that curriculum must be built around a student's needs and interests rather than the student adjusting himself to an established curriculum. This educational philosophy was also recorded by Dewey (1966, p. 88) " . . . education is the harmonious development of the various powers of the individual. Education is all one with living; education is experience, it is growth." From the writing of Kneller (1964, p. 25) " . . . the teacher should construct learning situations around particular problems whose solution will lead his pupils to a better understanding of their social and physical environment". "Education should be life itself, not a preparation for living. . . . Learning should be directly related to the interests of the learner" (p. 48).

From these philosophies we gain the idea that texts and teachers must give way to the primary importance of the learner. Knowles (1970) believed that adult learning occurred only when the student motivated himself through identifying his needs, setting his goals, and

perceiving achievement through the learning process. The teacher then becomes a resource, providing needed knowledge, or locating a source for the student to investigate. Both the student and the teacher have to diagnose this need (although a preponderance of adult learning occurs without a teacher) apply instructional material to achieve the stated goal, and evaluate progress toward objectives.

Many adult educators in the literature have developed theories in the context of their own institutions. Some have not related to business or to industry, and indeed most involved themselves specifically with volunteer organizations. They all, when appropriate, were quick to enjoin that the outlined principles concerned the nature of the adult; and this common denominator carried the need for and provided avenues most conducive for effective learning to take place in any institutions having a responsibility to conduct adult education programs, not only to develop job skills, but also to promote maturity growth and thus satisfy an individual's needs. They listed several institutions that possess this social obligation; industry, labor unions, agricultural organizations, and volunteer organizations. Knowles (1979) identified adult education as a means for furthering productivity and for developing human resources. He suggested that adult educators should routinely apply the principles of andragogy to technical skill training, employee orientation, promotion training, executive development, and improving interpersonal relations within organizations. Ingalls (1972) further declared that andragogy met the conditions for continuing education activity for adults: (1) it is a way to learn directly from our experience, (2) it is a process of re-education that can reduce social conflicts through interpersonal

activity in learning groups, (3) it is a process of self-learning from which we can continuously develop our own learning ability.

Adult Development

Life stages and the idea of life crises have been studied for some time. Levinson et al. (1974) developed the stages of a man's life and coined BOOM (Becoming One's Own Man). Vaillant (1977) studied ego-identity in man and viewed groups at several points in their lives. Gould (1972) further studied and supported Erikson (1963) after he postulated that people enter either-or identity situations at different stages of their lives. Sheehy (1976) popularized the concepts presented by these researchers and noted psychologists, and her presentation of mid-life explosions provided a lay version of here-to-fore complicated issues. There is, however, new literature on adult development, that while parallel to the "stages" theories, postulates a continuous readiness to change throughout the maturing life of a person.

This new thought views adult development as an integrated, dynamic, and continuous process. The concept is based on the premise that "adult experiences are too varied and multifaceted to be classified into age-defined discrete categories" (Whitbourne and Weinstock, 1979, p. vi). The potential for change, therefore, is always present-- and cannot be predicted. The new model by Whitbourne and Weinstock (1979) was derived through a combination of Werner (1948) and Erikson (1959, 1963). Werner postulated that "differentiation and integration underlie developmental change over the life span of every individual". The individual must always "define and redefine one's personal

identity". The "differentiation" model was based on two types of ex-

perience: Deductive--when one's identity forms the basis of experience

interpretation, and Inductive--when perceived experiences affect iden-

tity change.

This model is also consistent with Piaget's theory relating to

schema mechanisms and the two experience types are parallel to accom-

modation or assimilation types as related to equilibrium or

disequilibrium of a person when confronted with a problem. The connec-

tion of this theory of adult development to adult education lies in the

relative use of deductive or inductive differentiation as a basis for

interpreting adult experience and thus, characterizes the adult iden-

tity status. The issue areas that could effect these changes are:

self-concept, personal goals, value systems, motivation, interpersonal

relations, social roles, and personal/social milieu.

While much research has been conducted on child development, lit-

tle is known on adult development. Neugarten (1968) stated that we

should not overlook the development of personality that occurs with

the passage of time as individuals move through life from adolescence

to adulthood. She further pointed out that psychologists were pri-

marily concerned with the first two of the seven decades of life and

that the last 50 years of a person's life has been largely ignored by

educators and those involved in articulating learning theory.

From Ingalls (1972) the following thoughts are drawn: We still

need to master the process of "how to learn". Life spans now go

through three or four cultural periods in a 70-80 year period. Popu-

lation growth, social, and technological advances are rapid. The

quantity of changes and the increasing rate of change should cause

educators to doubt the capability to transmit all we know. A better
method might be to stimulate a desire to find what needs to be known.
If the latter procedure is followed, the education process becomes an-
dragogical: (1) education will not be primarily for children, and (2)
responsibility to decide what to teach shifts from teacher to learner.

In the realm of adult socialization and these socializing impacts
on adult development, there appear many forms and numbers of settings
that influence maturation processes for adults. Perhaps the most in-
fluential processes are those attributed to the work environment--
because they occur with regularity over a long period of time. The
adult's work experiences have continuous and pervasive effects upon
identity, life style, and attitudes. Miller (1964) said:

> Work activity can be regarded as an axis along which the
> worker's pattern of life is organized.
>
> . . . he will spend about 80,000 hours or more than 30
> percent of his working life employed at a job. But more
> signigicant than time is the value placed upon work ex-
> perience. The key question asked of a person in Western
> society is "what do you do"? No other question elicits
> so truly revealing an answer (p. 96).

In the realm of vocational development and the role it plays in
the adult development process are two basic theories: Holland's (1973)
Theory--The Trait-Factor Approach; and Super's (1969) Theory--The Self-
Concept Approach. In Holland's Theory, people basically choose a work
environment with the greatest similarity to their personality type.
This theory, although popular from a vocational aspect, may not be so
complete from the perspective of adult development--especially as it
pertains to keeping adults out of environments not satisfied by their
personalities. The latter theory of a Self-Concept Approach may be
more closely aligned to adulthood. In this theory, a person's

self-concept is integrated into the potentiality for implementing that concept, in the social world, the work world, or in cultural aspects of the working world. In this concept, a career pattern sets the stage throughout the adult years and Super used Buhler's (1935) concept of life stages to characterize self-concept throughout the age periods of an adult's life. Even though this theory of work development, and the resulting social impact on an adult's development, may satisfy adult identity status and the changes of identity as an adult matures.

According to the differentiation model, identity processes operate continuously throughout an adult's life. Specific characteristics of certain stages, according to age, are very difficult to sharply distinguish. Adults in their later years, however, are receiving more attention and there is now more accumulated evidence pointing to the fact that identity and living experiences change with greater intensity and more rapidity in the later years of life.

Industrial and Corporate Training Literature

Training and education in industry is big business. The Department of Labor reports (Craig, 1979) that training by employers in 14 occupations in four metalworking industries occurs in 90 percent of the production shops. More than 25 percent of these firms use adult education centers and more than 10 percent use community colleges. Over $1.2 billion was spent in 1976 on management training and development (Black, 1977). A survey by the Bureau of National Affairs reports 55 percent of 141 organizations have formal in-house training programs, over half of the programs occur in separate training departments (Craig, 1979). Donaldson and Scannell (1978) in their book Human

<u>Resources</u> <u>Development</u> report that an estimated $100 billion is invested annually by business and industry in training employees. Lusterman (1977) reports that in 610 firms surveyed by the Conference Board in New York, over $2 billion was spent in 1974 on employee education and training.

The training, education, and development of employees by business and industry is indeed a very large business, accounting for a large segment of annual corporate expenditures. All literature reveals the basic and overriding fact that training programs in industry are designed to be cost effective and are in fact repeatedly reviewed with the aspect of least-cost expense being the predominant determinant for success.

Although margins of profit motivations are the driving influences in private industry and cost effectiveness methods are primary in the public sectors in determining the efficiency of training, the intrinsic and extrinsic motivations of workers are greatly affected by the provision of training and education programs. According to Reif (1975), in his study on motivational rewards, the educated employee finds increased security and enjoys higher income. There may be no clear solutions to meeting individual adult's needs, but industry has determined that they have a moral and social obligation to enlighten their employees by education. Adult educators also believe that enlightenment of adults goes beyond counseling and advisement and they strive to reach out to the individual's work and leisure world as an environment for learning (Gardner, 1976). However, a firm method for measuring success of training, or change generated in the participants, has been lacking for years. Wirtz and Goldstein (1975) analyzed and measured

work training for the Monthly Labor Review and stated that only in the engineering, medical, teaching, and legal professions is there substantial basis in reported surveys for identifying the changes which are taking place. Employers, for a variety of reasons, would welcome firmer evidence about the effectiveness of educational and training programs.

Millions of people receive occupational training each year and the largest proportion of these occur in skilled and semi-skilled training programs in private industry (Neary, 1974). As an adjunct requirement for setting a manpower analysis stage, many methods are utilized for gathering and accumulating industry and training data for government bureaus. There is, however, a dirth of information included in these data, about the methods, processes, objectives, and evaluation of the training programs. There are serious gaps in our knowledge of results of industrial training (Somers and Roomkin, 1974) a violation of the adult education program model that includes measurement against objectives and analysis of performance against criteria.

Organizational changes appear to have responded to the corporate need for training. While the majority of entities include the function of training within a personnel management branch, there are more and more companies who are adapting a separate training functional division (Brown and Root, 1979). These divisions are staffed with professional educators well versed in program development and learning methodologies. This move is indicative of a Human Resource Management style and represents acknowledgement of individual needs pertaining to the working environment. Included in this human approach to managing people is the implicit view of need, rather than cost, as the primary

factor influencing corporate commitment to training. Also prevalent in this human approach is the understanding of learners and of learning theory. In any learning situation in industry, there are several involved individuals: the learner, the supervisor, the trainer, and finally the peers or the organization represented by all the participants. The learner should know what is expected, what behavior is desired, and within which framework the learning experience can be placed. This learning experience is probably problem centered and the learner must relate the learning to the problem to be solved (a basic tenet of andragogy). Learning theory concepts dealing with reinforcement, frame of reference, and association clearly focus on the job in industry training programs. These views are vividly discussed by Nadler (1979) in his discussions on developing human resources. Perhaps the most crystal example of adult education was described by Nadler as a "continuous learning posture" when he wrote about the Japanese industry method of providing a continuum of learning programs before their employees--whether or not the instruction had to do with working or flower arranging. The key was that the worker was in a constant state of readiness for new learning. When technology then caused a new product, the worker was conditioned to learn and only the subject matter changed. Harrison (1977) also described a "radical approach to education design" in his description of self-directed learning. He showed how self-direction contributed toward adult trainees' important growth need of independence and initiative. He said, "The learning should foster perceiving oneself as center of energy and action, an origin rather than a pawn" (p. 57). His model for self-directed learning in industry was: (a) a clearly articulated

conceptual framework, (b) initial diagnosis, (c) participant collection of data from associations or colleagues, (d) structured exercises to assess skills and knowledge, (e) experiential exposure to alternate behavior and situations, (f) self-directed program using experiential and traditional materials, and (g) structured application planning.

CHAPTER III

METHODOLOGY

The objectives of this study were to: (1) identify the basic
principles about adult learning which underlie adult education programs;
and (2) determine the extent these principles were being implemented
in selected industrial and corporation training programs. This
chapter outlines the methods and procedures used in three phases of
the study: (1) identification and validation of basic principles of
adult learning; (2) development of a data collection questionnaire;
and (3) procedures used by the researcher to obtain information on
selected industrial and corporation training programs.

Review and Comprehensive Analysis of Literature

A research team of six individuals at Oklahoma State University
conducted an exhaustive review of literature and research by
recognized adult education authorities on how ideally adult learning
should occur. The categories of review covered by the search included
(1) philosophical, (2) psychological, (3) social lifecycle, (4) cog-
nitive, (5) physiological, and (6) environmental and technological
aspects of adult learning.

After compiling a thorough bibliography, each member of the team
selected for review basic literature categories related to adult
theory and practice. In addition, each team member chose at least one

of the basic categories in which to conduct an exhaustive literature search including textbooks, published reports of research, and journal articles, including ERIC, and unpublished doctoral dissertations. Each team member then submitted written reports to the group relating findings made through the search. These reports were used by team members in completing the literature review about adult learning principles.

<div align="center">Tentative Condensation of Ideas and
Synthesis of Underlying Principles</div>

The principles of adult learning discovered through the literature review were formed into a concise and comprehensive list by the research team. To form this comprehensive list a corporate decision workshop (modified nominal group technique) was used in which all principles and concepts were listed by all team members. These items were then combined into categories and written into concise explanatory statements. Through consensus the team established eight principles and a list of statements which provided support for each of the eight principles (Appendix A).

The basic principles underlying adult learning as condensed from the literature by the research team were as follows:

1. Adults maintain the ability to learn.

2. Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills.

3. Experience of the learner is a major resource in the learning situation.

4. Self-concept tends to move from dependency to independency as as an individual grows in responsibilities, experience, and

confidence.

5. Evolving life roles and events influence adults' readiness to
    learn.

6. Active learner participation in the instructional/learning
    process contributes to learning.

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

8. Adults experience a gradual decline in physical/sensory

Refinement and Validation of the Principles

The next step was to refine this list of eight basic principles
by use of a jury panel of selected adult education experts. See list
Appendix A. The jury panel was asked to define the principles and
to judge their worthiness, if possible. They were also requested to
add any additional principles they thought relevant and that may have
been overlooked or misinterpreted by the researchers in the reviews
of literature. General agreement was expressed by this panel that
the eight principles were key to the success of adult learning. In
addition this jury suggested a ninth principle be added. This added
principle combined aspects of two of the original eight principles
selected by the research team and warranted separate emphasis.

Similarly, a second jury panel of adult education authorities
with a high degree of visibility and representing various backgrounds
in the field of Adult Education (Appendix B) was then requested to
validate the importance of these refined principles of adult educa-
tion.

Each member of this jury was asked to rate the importance of each principle on a modified Likert Scale with values 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 4.54 or above during this validation phase. Wording of these principles and their supportive statements upon completion of the jury panel refinement and validation phases are shown in Appendix B.

Development of the Data Collection Questionnaire

Adult learning practices pertaining to program development and implementation were used as criteria to gather and analyze the data on training programs. The andragogical process (Figure 1) is supported by professional adult educators and provides the endorsement for a collaborative teaching/learning mode as an appropriate method for assisting adults in the learning process. The collaborative mode was defined by Conti (1979) as a learner-centered method of instruction in which authority for curriculum formation was shared by the facilitator and the learners. Conti also devised and used an instrument to test this collaborative mode which was designated PALS (Principles of Adult Learning Scale). The PALS instrument contained 44 items that the research team initially used in this second phase of the study, related to the nine basic underlying principles studies in this research.

ORGANIZATION	INPUT	ACTIVITY	OUTPUT
1. A climate for learning	3. Needs, interests, & values of participants	4. Formulating Objectives	7. Shared evaluation of results. Leads to a reassessment of needs
2. A structure for mutual planning		5. Designing	
		6. Implementing	
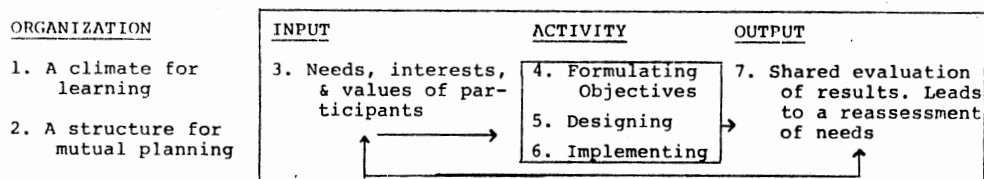
Source: Ingalls. (1972, p.10).

Figure 1. The Andragogical Process

The first developed research questionnaire consisted of 47 state-
ments. These statements were randomly drawn for placement order in
the questionnaire. Nine statements were worded in such a manner so
that the expressed concept was contrary to the identified adult
learning principles. These statements that expressed concepts contrary
to adult education were deliberately included in the instrument by the
researchers to insure respondent's attention to detail. The respondents
were not informed that any of the statements expressed contrary con-
cepts. Each statement, according to its degree of use, was to be rated
by respondents on a Likert Scale from 0 to 4; "not applicable" = 0,
"never" = 1, "sometimes" = 2, "frequently" = 3, and "always" = 4.
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 t0 2.49)   respondent practiced this
                                      action a few times last 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.

These items were then field-tested, interpreted, observed and matched numerous times (four to five times) by the six researchers. Forty-five questions were finally selected and placed under the nine principles (four to seven statements per principle) prior to the refined and final determination of the questionnaire instrument (Appendix C). A panel of authoritative sources was again used to validate the place-ment of the individual question items under the nine principles. See Appendix D for the form and the list of validators.

Each validator was asked to categorize the 45 statements under one of the nine principles. All but two of the items were placed under a principle with 70 percent agreement by panel members. Statement nine was placed under both principles two and eight, statement 23 was placed under both principles five and eight, and statement 28 was placed under principles 4 and 6. Each principle number, the code word, and the final placement of each statement from the questionnaire are presented in Table I.

Having completed a face and construct validity verification by the research team, the questionnaire was determined reliable by accomplishment of test-retest by individuals with backgrounds in col-lege teaching, nursing and patient care, industrial training, and agricultural extension. A correlation of .70 was obtained for an average reliability coefficient.

Because the terminology for the different populations to be studied differed significantly, it was necessary to adapt the state-ments to each field of study. Only terms inappropriate to an area were changed so as to reduce communications problems; (1) the recipient of the learning activity was called student, trainee, participation, or

patient; (2) the responsible person for the learning activity was called teacher, instructor, or trainer; (3) the location of the learning activity was called classroom, setting, or program; and (4) the learning activity was called course, class, seminar, program, or activity. The questionnaires used in the various populations were identical except for these modifications.

TABLE I

STATEMENTS AND CODING FOR ADULTS
LEARNING PRINCIPLES

Principle	Code	Statement
1.	Ability to learn	14, (17)*, 22 (27), 30
2.	Diversity	9, 11, (26), 32, 37
3.	Physical change	(10), (33), 36, 39, 40
4.	Experience	1, 4, 19, 28, (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, 23, 29,34
9.	Supportive environment	2, 12, (31), 38, 41,45

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

Population and Data Collection Procedures

The research team selected five different fields in which to determine the extent the established adult learning principles were being used. The specific fields chosen were; (1) university

extension; (2) business and industry; (3) hospital patient education; (4) cooperative extension; and (5) community junior colleges. These fields were chosen according to individual interest, training area and background, relation to field of study, and the degree to which adult learners were present in that field. The procedures for collecting data involved the selection of subjects from which the data was to be collected, the method for securing the data, and the process of data analysis.

The research population of this study was composed of 97 companies which were selected from the Oklahoma Directory of Manufacturers (1980). The directory lists companies in categorical listings of 100 employees or more, 250 employees or more, and 400 employees or more. It was determined that the list of companies with 400 employees or more, which was 97 companies in length provided a sample size satisfactory to this study. The larger companies were also determined to more likely have training programs and training personnel more conversant with the types of inquiries represented in the questionnaire instrument.

The questionnaire (Appendix C) was addressed to the President of each of the 97 companies. Sixteen were returned within two weeks and a second mailing with a different color paper questionnaire and a red-labeled urgency/attention note (Appendix C) was mailed out. This response resulted in 14 more answers within four weeks.

This small response rate (31 percent) was discussed at some length. It was finally decided to continue the study based on these responses. Lengthy questionnaire instruments may militate against favorable responses by busy private sector firms, and committing time to questionnaire responses may be contrary to productive work

requirements. Therefore, the research team decided against recommending further queries to these 97 companies.

Data Analysis

Of the 97 questionnaires mailed out a total of 30 were returned. Although the original study design would have reviewed responses in all categories of the demographic variables, the small response rate only justified comparisons be made in two of the categories--size of company, and location of company. Data was coded and recorded on computer work sheets by the researcher. Raw means were computed for each respondent and for each question statement. Categories of statements pertaining to each principle were computed for each of the variable categories.

CHAPTER IV

INTERPRETATION OF DATA AND FINDINGS

The nine principles of adult learning determined by the study were examined in terms of means which indicated the extent of use of each principle as perceived by manufacturing and industrial companies in Oklahoma. This chapter is organized to present rank order of principles, mean value of individual statements and a breakdown by variables. The following sections are addressed in this chapter: (1) sorting of statements and the mean value of individual statements, and (2) breakdown by variable according to size of company in terms of total employees, and in terms of location of companies in operation in Oklahoma City, Tulsa, and balance of state locations.

Thirty-one percent of the companies (30 of 97) returned questionnaires. The representation was from four different employee size categories and from three major geographical locations.

The companies represented manufacturing and industrial categories in the private sector of business. While different job titles (training manager, personnel director, manager, etc.) responded, there were no differences represented by these response categories.

TABLE II

NUMBER OF RESPONDENTS BY COMPANY SIZE AND LOCATION

COMPANY SIZE	N	COMPANY LOCATION	N
250–499	11	Oklahoma City	6
500–749	7	Tulsa	12
750–1000	3	Other	12
1000–up	9		
TOTAL	30	TOTAL	30

Rank Order of Principles

As explained in the methodology chapter, the research team de-
veloped statements relating the use of these principles to the
instructional setting. From responses for each of these statements, a
mean score was calculated. The mean response score for each statement
was then placed under its corresponding principle and an overall mean
for each principle was calculated.

Each principle was then ranked by the researcher in order by mean
value from high to low. Table III contains a rank order by means of
the nine principles. The means range from a high of 2.87 to a low of
2.30. Principle 3 (physical) had the highest mean, while principle 8
(participation) had the lowest mean. Of the nine principles, six of
the principles (3, 6, 9, 7, 4, 5) had means to indicate the extent of
use as "frequently," while three of the principles (2, 1, 8) had means
to indicate the extent of use as "sometimes". The greatest gap between

means occurred between principle 2 (diversity) and a combination of principle 1 (ability to learn) and principle 8 (participation).

The data indicated that companies perceived themselves to utilize "frequently" six out of the nine principles. They perceived practicing these principles more than they did not practice the principles. The companies perceived themselves to frequently utilize the practices relating to the concept that adults experience a gradual decline in physical/sensory capabilities to a greater extent than any other principle. They perceived that they utilized more often than not practices that utilize the life-centered orientation of the adult, that create a supportive environment for the learner, that motivate adults to learn by a variety of factors, that use the experience of the learner as a major resource in the learning situation, and that recognize the independent self-concept of the adult learner.

The data also indicated that out of the nine principles, three of the principles were perceived to be utilized "sometimes." In a few instances, the companies perceived themselves as practicing the actions relating to the concepts that adults are a highly diversified group of individuals, that adults maintain the ability to learn, and that adults permit active participation in the learning process. More clearly stated, the companies perceived that diversification, and cognitive abilities, and active participation in programs were recognized and planned for in a few instances ("sometimes"). It may be that the nature and structure of the corporate setting could be contributing factors to the results of this data. The private sector structure tends to operate in terms of productivity and return on investment rather than on an emphasis on participation and diversity. Further study may

be needed to determine the effect of the structure of private sector

corporate institutions on the implementation of the principles.

TABLE III

RANK ORDER OF ADULT LEARNING PRINCIPLES

Rank	Principle number	Mean*	Principle
1.	3	2.87	Adults experience a gradual decline in physical/sensory capabilities.
2.	6	2.79	Adults tend to be life-centered in their orientation to learning.
3.	9	2.78	A comfortable supportive environment is a key to successful learning.
4.	7	2.76	Adults are motivated to learn by a variety of factors.
5.	4	2.64	Experience of the learner is a major resource in the learning situation.
6.	5	2.53	Self-concept tends to move from dependency to independency as an individual grows in responsibility, experience, and confidence.
7.	2	2.44	Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills.
8.	1	2.30	Adults maintain the ability to learn.
9.	8	2.30	Active learner participation in the instructional/learning process contributes to learning.

*mean score of all means = 2.62

The mean for each of the 45 questionnaire statements was calcu-
lated. Table IV contains the statement means. These means ranged from
a high of 3.67 (statement 42) to a low of 1.78 (statement 5). The high
mean of 3.67 indicated extent of use as "always". The low mean of 1.78
indicated extent of use as "sometimes". The highest mean fell under
principle 7 (motivation), while the lowest mean fell under principle 8
(participation).

Statement 42, receiving the high mean of 3.67, was a statement
that expressed a concept contrary to adult education principles. In
computation the mean score was reversed. The data here indicates that
companies do indeed attempt to determine the motivation factors con-
tributing to trainee program response.

The next highest means 3.37 (statement 10 and statement 33) fell
under principle 3 (physical). These were also statements that ex-
pressed a concept contrary to adult education principles. The mean
scores were reversed for computation. The data here shows that the
companies perceived themselves to always respond to these aspects of
physical and sensory factors in all their training programs. Research
on adult learning indicates that attention to these details is key in
providing successful training programs. Thus, statements receiving
the highest means and expressing concepts consistent with adult educa-
tion principles fell under the highest (top four) ranked principles.

TABLE IV

MEAN VALUES FOR EACH PRINCIPLE
BY QUESTIONNAIRE STATEMENT

Principle	Statement Number Mean							Principle Mean
1. Ability to Learn	14 1.81	(17) 2.74	22 2.30	(27) 2.41	30 2.22			2.30
2. Diversity	9 2.56	11 2.48	(26) 2.33	32 2.26	37 2.59			2.44
3. Physical Change	(10) 3.37	(33) 3.37	36 2.19	39 3.15	40 2.26			2.87
4. Experience	1 2.55	4 2.33	19 2.30	28 2.93	(44) 3.07			2.64
5. Self-Concept	13 2.55	(21) 3.22	23 2.15	25 2.19				2.53
6. Life-centered orientation	3 2.89	8 2.63	14 2.96	24 2.89	28 2.93	43 2.44		2.79
7. Motivation	6 2.41	7 2.96	20 2.26	35 3.48	(42) 3.67			2.76
8. Active Participation	5 1.78	9 2.56	16 2.15	18 2.63	23 2.15	29 2.55	34 2.30	2.30
9. Supportive Environment	2 2.93	12 2.59	(31) 2.81	38 3.30	41 2.59	45 2.44		2.78

( ) indicates negative statement

Analysis of Responses

The next analysis of the data was performed in relation to company size--by numbers of workers employed. The mean value for each
principle was calculated by company size. This information is presented in Table V.

Each principle was ranked in order by mean from high to low.
Table VI shows a rank order by means of the nine principles by company
size. The means range from a high of 3.19 for companies 1,000 and up

(life-centered) to a low of 1.83 for companies of 750-1000 (self-

concept). As shown in Table VI, those principles used "frequently"

varied from size group to size group. The 1000-up companies, while

displaying a higher average mean, also perceived more of the principles

(seven of them) as used "frequently". The company size group of 500-

749 employees only perceived usage of two of the principles

(supportive environment, 9, and physical sensory, 3) on a "frequent"

basis. This size group also displayed the lowest overall mean average

of 2.30. The range of disparity between the nine principles was small-

est in the smaller employee size group (250-499 and 500-749) and the

and the widest range of usage was perceived by the 1000-up group (from

a high of 3.19 for life-centered (principle 6) to a low of 2.25 for

learning, (principle 1).

TABLE V

MEAN VALUE OF PRINCIPLES BY COMPANY SIZE

| | Mean Scores | | | |
| | 250-499 | 500-749 | 749-1000 | 1000-up |
Principle	N=11	N=7	N=3	N=9
1. Learning	2.40	2.15	2.00	2.25
2. Diversity	2.54	2.32	2.38	2.37
3. Physical	2.92	2.54	2.00	3.17
4. Experience	2.66	2.26	2.80	2.83
5. Self-concept	2.60	2.32	1.83	2.93
6. Life-centered	2.83	2.28	2.61	3.19
7. Motivation	2.90	2.31	2.53	2.80
8. Participation	2.37	2.08	2.18	2.67
9. Supportive Environment	2.67	2.60	2.67	3.05
Overall Mean	2.67	2.30	2.37	2.80

Principle 9 (supportive environment) was the only principle per-ceived to be used "frequently" by all size groups. Principles 3, 4, 6, and 7 (physical, experience, life-centered, and motivation) were per-ceived to be used "frequently" by three of the four size groups.

Principle 1 (adults can learn) was perceived to be used "some-times" by all four size groups. Principles 2 and 8 (diversity and participation) were perceived to be used "sometimes" by three of the four size groups.

The principle of self-concept (principle 2) was perceived to be used "frequently" by two of the size groups and "sometimes" by the other two size groupings.

Analysis of Responses
By Company Location

This phase of analysis was completed in relation to company loca-tion--in the Tulsa, Oklahoma, metropolitan area; the Oklahoma City, Oklahoma, metropolitan area; or, in locations in the remainder of the state. Each mean was calculated by location groupings as shown in Table VII.

Each principle was then rank ordered by mean score from high to low. Table VIII shows a rank order by means of the nine principles. The means range from a high of 3.02 for the Tulsa group (life-centered, principle 6) to a low of 1.64 for the Oklahoma City group (physical, principle 3). As shown in the table, the principles perceived to be used "frequently" also varied from group to group. The only principle perceived to be used "frequently" by the Oklahoma City group was

principle 6 (life-centered). This principle then is the only principle perceived to be used by all three groups.

There were two principles (1, 8) perceived to be used "sometimes" by all three groups (learning and participation). The range of disparity between the nine principles was smallest in the Oklahoma City group and this group also had the lowest overall mean score, with one principle (principle 3, physical) being close to the scale where it is "never" perceived as practiced. It scored 1.64 as compared to a 1.5 score for the high end of the "never" range of values.

Findings

The nine principles of adult learning determined by this study were reviewed for extent of use as desired by the second objective of the study. The extent of use was shown by relative positioning of mean scores for each statement, each group of statements representing a principle, and for different company variables--size and location. While the highest individual statement mean score fell under principle 7 (motivation), the highest principle mean score was attained by principle 3 (physical). The findings of the two variables--size and locations of companies--show that principle 6 (life-centered) and principle 9 (supportive environment), were perceived as predominantly used in location grouping and size groupings respectively. These two principles did rank high in the overall rank order.

TABLE VI

COMPARATIVE ORDER OF PRINCIPLE MEANS BY COMPANY SIZE

	Means	250-499 Employees	500-749 Employees	750-1000 Employees	1000-Up Employees
FREQUENTLY	3.19				Life-Centered
	3.17				Physical
	3.05				Supportive Environment
	2.93				Self-Concept
	2.92	Physical			
	2.90	Motivation			
	2.83	Life-Centered			Experience
	2.80	------------------------		Experience	Motivation
	2.67	Supportive Environment		Supportive Environment	Participation
	2.66	Experience			
	2.61			Life-Centered	
	2.60	Self-Concept			
	2.54	Diversity	Supportive Environment		
	2.53		Physical	Motivation	
SOMETIMES	2.40	Learning			
	2.38			Diversity	
	2.37	Participation			Diversity
	2.32		Diversity		
			Self-Concept		
	2.31		Motivation		
	2.28		Life-Centered		
	2.26		Experience		
	2.25				Learning
	2.18			Participation	
	2.15		Learning		
	2.08		Partication		
	2.00			Physical	
				Learning	
	1.83			Self-Concept	

----Average Mean for Each Group

TABLE VII

MEAN VALUE OF PRINCIPLES BY COMPANY LOCATION

	Principle	Mean Scores		
		Oklahoma City N=6	Tulsa N=12	Others N=12
1.	Learning	2.16	2.29	2.02
2.	Diversity	2.20	2.57	2.27
3.	Physical	1.64	2.94	2.42
4.	Experience	2.48	2.56	2.54
5.	Self-concept	2.05	2.57	2.50
6.	Life-centered	2.52	3.02	2.80
7.	Motivation	2.27	2.84	2.40
8.	Participation	1.97	2.44	2.44
9.	Supportive Environment	2.40	2.76	2.85
	Overall Average Mean	2.17	2.66	2.48

TABLE VIII

COMPARATIVE ORDER OF PRINCIPLE MEANS BY
COMPANY LOCATION

	Mean	Oklahoma City	Tulsa	Other
FREQUENTLY	3.02		Life-Centered	
	2.94		Physical	
	2.85			Supportive Environment
	2.84		Motivation	
	2.80			Life-Centered
	2.76		Supportive Environment	
	2.57		Diversity	
			Self-Concept	
	2.56		Experience	
	2.54			
	2.52	Life-Centered		Experience
	2.50			Self-Concept
SOMETIMES	2.48	Experience		
	2.44		Participation	Participation
	2.42			Physical
	2.40	Supportive Environment		Motivation
	2.29		Learning	
	2.27	Motivation		Diversity
	2.20	Diversity		
	2.16	Learning		
	2.05	Self-Concept		
	2.02			Learning
	1.97	Participation		
	1.64	Physical		

---Average Mean for Each Group

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter discusses the study in three different sections: a summary which will synthesize the study and the findings, a conclusion which will provide the researcher's comments, and recommendations.

Summary

The purpose of this study was to investigate the extent to which adult education principles and concepts were utilized in the training programs in selected industrial and corporate organizational settings. Two objectives were established to satisfy this purpose: (1) identify the basic principles about adult learning which underlie adult education programs, and (2) determine the extent to which these principles were being used in industrial training programs.

Through a comprehensive literature review a research team of six individuals identified nine principles of adult learning. These principles were verified, validated, and concurred with by jury panels of adult education resource authorities. A questionnaire instrument was developed to measure usage of these principles. It was verified, tested for reliability and adapted for the several populations studied by the research team.

The research population of this study was composed of 97 industrial firms located in the state of Oklahoma. Questionnaire response

was low, with 30 out of the 97 responding to the request. From the data collected, mean scores were computed so as to rank order the usage of the adult learning principles by several variations. These variations were four different sizes of companies (related to numbers of employees), and location of the companies (Oklahoma City, Tulsa, or the balance of the state).

The findings of the study are summarized below:

1. Nine basic principles of adult learning were identified.

2. Six of the principles were perceived to be used "frequently" in corporate training programs. These are physical aspects, life-centered aspects, providing a supportive environment, motivation aspects, background experience aspects, and self-concept (principles 3, 6, 9, 7, 4, 5).

3. Three of the principles were perceived to be used "sometimes" in corporate training programs. These were diversity aspects, adults can learn, and participation (principles 2, 1, 8).

4. Company training programs of smaller companies placed less emphasis on employee participation than did the large companies.

5. All sizes of companies placed little emphasis on the idea that adults can learn.

6. Small companies (less than 500 employees) and large companies (over 1,000 employees) place higher values on the usage of all principles.

7. Companies located in the Oklahoma City area placed less emphasis of usage of the principles than any other grouping of size or location.

8. Companies located in Tulsa placed higher emphasis on usage of the principles than the overall population mean score.

9. Job position in the company made no apparent difference as to perception of usage of the principles.

Conclusions

The results of this study allowed the researcher to conclude:

1. This study effectively identified nine basic principles of adult learning.

2. The questionnaire method--especially a complicated academic instrument--is a questionable method for gathering perceptions of training programs from the private sectors.

3. This study demonstrated an apparently high awareness and consistency for usage of six of the nine principles of adult learning in the private and industrial setting.

4. Adult learning principles utilized in industrial training programs apparently are those related to cost effectiveness, return on investment, and to productivity.

Recommendations for Further Study

There are some implications brought forth in this study that provide rationale for recommendations to industry, colleges, and universities. While the benefits derived from the use of adult learning principles are clear in regard to societal impact and quality of life improvement, the relative priority for using these principles appears to fall low in relation to other private sector considerations. Teacher educators, instructors, and trainers also need to know the

principles in order to be effective workers/adult educators, and they need to be able to recommend and apply fair judgment when practicing applications of the principles. Industrial training and development is happening, and it is happening in an andragogical mode—not as pure a mode as some educators would like to see, but the principles of adult learning as described in this study are being applied.

It is the recommendation of this researcher that further study be contemplated as a continuance of this study. It is also recommended that any further review of industrial training programs be done using direct observation and interview data-gathering procedures.

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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 preducted.

   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 occurence 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 factors in Adult Learning

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

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	Totally Acceptable
	/	/	/	/	/

Not
Accept- Accept-
able   able
/ / / /   1. ADULTS MAINTAIN THE ABILITY TO LEARN.
1 2 3 4 5

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 adult.*

c. *Exercise of the intellectual function tends to increase the capacity to learn.*

/ / / /   2. ADULTS ARE A HIGHLY DIVERSIFIED GROUP OF INDIVIDUALS WITH WIDELY
1 2 3 4 5   DIFFERING PREFERENCES, NEEDS, BACKGROUNDS, AND SKILLS.

This principle includes the following concepts:

a. *Adult development is continous and multifaceted.*

b. *Some categorical changes in adults cannot be predicted.*

c. *Adult learning styles are varied and require an eclectic approach.*

/ / /   3. ADULTS EXPERIENCE A GRADUAL DECLINE IN PHYSICAL/SENSORY CAPABILITIES.
1 2 3 4 5

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.*

/ / / /   4. EXPERIENCE OF THE LEARNER IS A MAJOR RESOURCE IN THE LEARNING
1 2 3 4 5   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.*

/ / / /
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.*

/ / / /
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.*

/ / / /
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.*

/ / / /
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.*

/ / / /
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.*

VALIDATION PANEL

1. Dr. Art Burrichter   Professor of Adult Education
             Florida Atlantic University

2. Dr. Mary Grefe   President, American Association of
             University Women

3. Dr. Roger Heimstra   Professor of Adult Education
             Syracuse University

4. Dr. Carol Kasworm   Assistant Professor of Adult Education
             University of Texas

5. Dr. Chester Klevins   Dean of Continuing Education
             City University, Los Angeles, California

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
             University

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

APPENDIX C

FINAL QUESTIONNAIRE

HRDC HUMAN RESOURCES DEVELOPMENT CENTER

School of Occupational and Adult Education
College of Education

HAS DEVELOPMENT AND UTILIZATION OF EMPLOYEE TRAINING PROGRAMS CAUSED ANY PROBLEMS FOR YOUR ORGANIZATION?

We are completing research in Oklahoma to see if this question is as important in our area as it has proven to be in other areas of the United States.

One of the probable causes for ineffective training programs has been connected to the lack of adherence to known learning assumptions having to do with adults in a training environment. While many researchers are asking questions today concerning productivity, quality of work life, and motivation in the work place, the questionnaire is solely seeking answers in the trainer/trainee environment. We believe however, that it will contribute heavily to the overall productivity and quality of work life research.

Please take ten minutes of your time to fill in the answers and return them to me post-paid. Please respond the way you or your company most frequently practices the action described in the item in training programs for your employees. Do not sign your name; your answers will be dumped into a computer and all data will be analyzed.

Please answer truthfully--not the way you THINK you should answer. Thank you for your help.

Phil Offill

	N/A	NEVER	SOMETIMES	FREQUENTLY	ALWAYS
1. Participants 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 company sections.	()	()	()	()	()
4. The many competencies that participants possess are utilized to achieve training objectives.	()	()	()	()	()
5. Participants are included in making decisions about the material that will be covered.	()	()	()	()	()
6. An attempt is made to utilize the factors that keep the trainees participating in offerings.	()	()	()	()	()
7. Programs are scheduled at locations that provide the greatest accessibility to as many people as possible.	()	()	()	()	()
8. Participants are helped to identify problems that they need to solve.	()	()	()	()	()

		N/A	NEVER	SOMETIMES	FREQUENTLY	ALWAYS
9.	Participants are encouraged to choose and use the most suitable means to accomplish their goals.	()	()	()	()	()
10.	The facilitator uses subdued colors rather than sharp contrasts in visual aids.	()	()	()	()	()
11.	Instructional objectives are adapted to match the individual abilities of the participant.	()	()	()	()	()
12.	The classroom is arranged so that it is easy for participants to interact.	()	()	()	()	()
13.	Participants and facilitators relate to each other as partners in learning.	()	()	()	()	()
14.	Participants 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 work.	()	()	()	()	()
16.	Participants are helped to diagnose the gaps between their goals and their present level of performance.	()	()	()	()	()
17.	The facilitator tries to keep the learner's attention by using fast-paced and challenging mental activities.	()	()	()	()	()
18.	Methods that foster discussion, involvement, and class interaction are used.	()	()	()	()	()
19.	Learning activities are planned to take into account the participants prior experiences.	()	()	()	()	()
20.	Resources for further learning are identified and/or presented.	()	()	()	()	()
21.	Self-evaluation by participants is not considered.	()	()	()	()	()
22.	Participants are presented with new concepts on a regular basis.	()	()	()	()	()
23.	Participants are encouraged to decide for themselves how well they are learning the material.	()	()	()	()	()
24.	Facilitators present knowledge and techniques which individuals can apply immediately.	()	()	()	()	()
25.	Activities are planned that encourage independent learning.	()	()	()	()	()
26.	The same training materials are used for all participants.	()	()	()	()	()

SOMETIMES | FREQUENTLY | ALWAYS
N/A | NEVER

27. Time limits are imposed when asking for recall of information and/or completion of tasks.   ( ) ( ) ( ) ( ) ( )

28. Learning activities are organized to real life experiences.   ( ) ( ) ( ) ( ) ( )

29. Participants are encouraged to make input into the various types of programs conducted.   ( ) ( ) ( ) ( ) ( )

30. Previously learned information is reviewed before new material is presented.   ( ) ( ) ( ) ( ) ( )

31. Competition among participants is encouraged.   ( ) ( ) ( ) ( ) ( )

32. Cultural backgrounds of participants are considered when planning learning activities.   ( ) ( ) ( ) ( ) ( )

33. Facilitators speak rapidly when instructing adults.   ( ) ( ) ( ) ( ) ( )

34. Participants are helped to develop short-range as well as long-range objectives.   ( ) ( ) ( ) ( ) ( )

35. Programs are arranged to minimize conflicts with other activities in which trainees may be involved.   ( ) ( ) ( ) ( ) ( )

36. Extra time is allowed for the eyes of the trainees to adapt when visual information is presented.   ( ) ( ) ( ) ( ) ( )

37. Different instructional techniques are used depending on the material to be taught and/or the participant's needs.   ( ) ( ) ( ) ( ) ( )

38. Questions or comments offered by program participants are treated with importance and given sincere responses.   ( ) ( ) ( ) ( ) ( )

39. Adequate lighting is provided in our training environment.   ( ) ( ) ( ) ( ) ( )

40. Training environments are adapted to the participant's physical needs.   ( ) ( ) ( ) ( ) ( )

41. Comfortable and supportive training environments are provided.   ( ) ( ) ( ) ( ) ( )

42. No attempt is made to determine what causes people to attend our voluntary training programs.   ( ) ( ) ( ) ( ) ( )

43. Our training programs help people cope with recent or expected changes on their jobs.   ( ) ( ) ( ) ( ) ( )

44. Participants are not encouraged to share their learning experiences with others in the group.   ( ) ( ) ( ) ( ) ( )

45. Informal counseling of participants is offered where needed.   ( ) ( ) ( ) ( ) ( )

||| |||

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	FINANCIAL	()
PRIVATE SECTOR ()	MANUFACTURING	()
	INDUSTRIAL	()
	OTHER _____	

3. MY ORGANIZATION IS LOCATED IN: Oklahoma City ()   Tulsa ()   Other ()

4. MY JOB TITLE IS _____   MY POSITION IS FULL TIME () PART TIME ()

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IF YOU HAVE ALREADY ANSWERED THIS QUESTIONNAIRE--
THROW THIS AWAY.

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AS YOU CAN.

THANK YOU

Phil Offill

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 princi-
ples 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 learn-
ing settings, so assume the instructor/student nomenclature to be
appropriate for your particular situation (instructor/patient, facilita-
tor/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 pro-
blems 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 constrasts
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 imput 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
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Florida Atlantic University

Dr. Mike Hannah
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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
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Dr. Don Seaman
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Texas A&M University

Dr. Doug Smith
Associate Dean
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Drake University

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

2

VITA

Phillip W. Offill

Candidate for the Degree of

Doctor of Education

Thesis: AN ANALYSIS OF THE PRACTICES OF ADULT EDUCATION IN BUSINESS AND INDUSTRY

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Shawnee, Oklahoma, November 24, 1934.

Education: Graduated from Shawnee High School, Shawnee, Oklahoma in in May 1953: received Bachelor of Science degree in Geology from OSU in 1957; graduated from the Industrial College of the Armed Services in 1974; received Master of Arts degree in Management and Supervision from Central Michigan University in 1976; completed requirements for the Doctor of Education degree at Oklahoma State University in July, 1981.

Professional Experience: Command Instructor pilot, Executive Personnel Development Manager and Commander of Tactical Fighter Squadron, United States Air Force, 1957-1977; Vice-President and Commercial Risk Assessment Manager of Commercial Insurance firm, 1977-1979; Manager, Human Resources Development Center of Oklahoma State University and instructor in School of Occupational and Adult Education, 1979-1981.

Professional Organizations: Adult Education Association, American Society of Training and Development, American Management Association, Oklahoma Adult and Continuing Education Association.