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ABSTRACT

This document is a tentative effort to lay out some of the components and implications of the "learning how to learn" concept. It is intended to be used in theory building and practical applications in the realm of adult education. Four chapters are included: The Concept (with the subheadings Concerning Terminology, The Learner's Needs, Some Special Contexts); Group Learning (with the subheadings Advantages of Group Learning, How to Use a Teacher, The Laboratory Method, Bradford's Theory and Model, The Indiana Plan and Participation Training, Community Development); Self-Directed Learning and Learning Style (with subheadings of Some Competencies, Learning from Experience Learning Style, Cognitive Style); and Training and Research (with subheadings of Three Programming and Learning Modes, Sources of Training, Training Guidelines and Observations, Differentiating Training Needs, Some Research Implications). A 48-item annotated bibliography is appended. (WL)

LEARNING HOW TO LEARN IN ADULT EDUCATION

by

Robert M. Smith

August 1976

Information Series No. 10
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ERIC Clearinghouse in Career Education
in Cooperation with
Department of Secondary and Adult Education
Northern Illinois University
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Foreword

As he himself has said, Dr. Robert Smith has been concerned with learning how to learn since entering the field of adult education. At Indiana University, he directed institutes in participation training and conducted discussion training workshops for lay leaders in many Indiana communities.

During his tenure at Wayne State University, he coordinated Wayne State University's and the University of Michigan's Behavioral Science Institute, which included a broad variety of offerings in human relations training.

At present, Dr. Smith conducts "Learning How to Learn Labs" and Staff Development Improvement Workshops at Northern Illinois University. We are grateful to Dr. Smith for the valuable contribution he has made in bringing this literature together and undertaking to clarify the learning how to learn concept for the benefit of the field.

John A. Niemi
Associate Director
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Northern Illinois University
August 1976

Preface

Since entering the field of adult education almost a quarter century ago, I have been interested in and involved with learning how to learn--a concept of great potential and sometimes perplexing dimensions. This tentative effort to lay out some of the components and implications of the concept could perhaps be better entitled something like "Notes Toward A Conceptualization of Learning how to Learn." It certainly stands to avoid the charge that adult educationists are given to premature crystallization of theory, since more questions are raised than answered. Hopefully, however, it will prove to be useful in theory building and practical applications concerning an idea whose time has obviously come.

My thanks to Barbara Brown, Kay Haverkamp, Robert Ryan, Dan Jessen, Sara Steele, Bill Rivera, and John Niemi for their assistance. And my appreciation and admiration go out to those who have persisted in efforts to help adults become more effective learners.

August, 1976 Robert M. Smith

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> Tomorrow's illiterate will not be the man who can't read; he will be the man who has not learned how to learn.
>
> Quoted by Alvin Toffler in Future Shock

> The only man who is educated is the man who has learned how to learn; the man who has learned how to adapt and change.
>
> Carl Rogers in Freedom to Learn

I. THE CONCEPT

When twenty well-known artists, scientists and statesmen wrote "summing-up" essays on the topic "What I Have Learned," many of them, not professional educators, made comments about learning itself, and two specifically stressed the importance of learning how to learn.[1] John Gardner has endorsed helping the individual to learn to learn as "the ultimate goal of the educational system."[2] And Carlos Casteneda's best-selling Teachings of Don Juan can be read as a powerful statement about learning and learning to learn in an unusual fashion in alien culture [8].[3] These examples, together with the above statement by Toffler, demonstrate that there lies about us a degree of interest in and "belief in" the concept of learning how to learn. Add to this a persistent thread of writing and research about the concept by such noted educationists and psychologists as John Dewey, Jerome Bruner, and Carl Rogers, and it would be surprising to find the matter neglected by those who concern themselves with the education of adults.

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[1] What I Have Learned (Simon and Schuster, 1966).

[2] Self-Renewal (Harper & Row, 1968).

[3] Numbers in brackets are keyed to publications described in the annotated bibliography.

Almost twenty years ago, the Canadian adult educator J. R. Kidd wrote, "It has often been said that the purpose of adult education ... is to make of the subject [learner] a continuing, inner-directed, self-operating learner."[4] Much of the "group dynamics" research and reporting of the fifties and sixties (in which many adult educators played important roles) had a learning to learn component and orientation [6]. Five members of the graduate faculty in adult education at Indiana University spent more than a decade developing a widely used approach to learning in groups that they describe as "learning how to learn" [3;4]. Cyril Houle devoted a book to coaching adults in the successful continuing of their education [22]. Malcolm Knowles treats the subject in several books [25;26], one of which, Self-Directed Learning, can be described as a resource for helping adults to alter their style of learning and thus learn about learning.

To cite a few more examples, it was predicted in 1969 that the curriculum of the 1970's would focus on helping adults "learn to learn."[5] Allen Tough has the entire field buzzing about a work that turns upon this concept [43]. Jack London has checked in with, "Maybe the most important goal of any educational endeavor is to help people learn how to learn, whether at age seven or seventy."[6] The prestigious, internationally oriented Learning to Be stresses the importance of the concept.[7] Glenn Jensen agrees: "Teaching adults how to learn is probably a skill that should be an objective of every teacher of

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[4]How Adults Learn (Association Press, 1959).

[5]See "Planning a Balanced Curriculum," by R. T. McCall and R. F. Schenz, in N.C. Shaw, ed., Administration of Continuing Education (National Association for Public Continuing Adult Education).

[6]In a book review in Adult Education, Vol. 24, No. 1 (Fall 1973).

[7]Edited by Edgar Faure, and others (UNESCO, 1972).

adults" [24]. And a recently issued video tape series for the training of teachers [46] calls learning to learn one of the four main elements in the learning process (along with the old favorites--goals, reinforcement, and knowledge of results).

A concept adjudged so important by the leaders in the field obviously has implications at several levels of adult education -- for the organization or institution that provides adult learning activities; for the instructional setting, or teaching-learning situation; and for the "world" of the individual adult learner. From the perspective of roles it becomes a concept to be taken seriously by administrators; curriculum designers or program planners; counselors; consultants and resource persons; instructors and facilitators; aides and volunteers; and participants or learners. For higher education there are implications for research in adult education and the preparation of professional adult educationists.

The mounting concern with learning how to learn can be attributed to the following:

. a long overdue acceptance of education as a lifelong process that human beings normally experience

. a shift from preoccupation with teaching toward learning and the study of people learning (methetics)

. a proliferation of approaches and techniques for providing adult education -- each with its special requirements

. a persistent interest on the part of some in the notion of learning style -- inquiry into people's preferences and differences when learning

. seminal research concerning the adult's self-directed and self-planned learning -- especially that of Tough and his associates [43]

. the "process-orientation" developed by many adult educators as a result of participation in the human relations or laboratory training movement.

Concerning Terminology

Like most concepts, "learning how to learn" is not readily defined with precision (and perhaps cannot be at this state of development). Its main tributaries are easier to identify than its boundaries. For some persons, the concept is centered in the "basic tools" so vital to most of formal and much of informal education -- listening, writing, studying, taking exams, using information sources and, of course, the all-important reading. For others it pertains to the understandings and skills that enhance learning in groups -- collaborative diagnosis and planning, and the giving and receiving of feedback, for example. Helping people become more self-directed in their learning or gain insight into their personal methodological preferences, strengths and weaknesses, and blocks to learning effectiveness (concerns of style) can be the focus of still others. Goodwin Watson terms learning how to learn equivalent to learners' development of initiative, creativity, self-confidence, originality, self-reliance, enterprise, and independence [8]. In addition to sounding like the names of aircraft carriers, these qualities obviously take one far beyond the skills level, as does the inclusion of such a matter as improving the learner's self-image -- often cited as a goal (and means) of adult basic education.[9]

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[8]Quoted by Malcolm Knowles in The Adult Learner: A Neglected Species (Gulf, 1973), p. 65.

[9]Several books with the title Learning How to Learn encountered by the present writer had little or no direct relationship to the concept as developed in this essay and were centered in the education of children. One, by Nancy Rambusch, was published by Helicon Press in 1962; another, by Robert Fisher,

As concerns the exact wording of the concept, some writers prefer the shorter, learning to learn. This facilitates expression but deprives the term of impact and the utilitarian flavor useful in convincing adults of the importance of the concept. The chief disadvantage of using the word "how" is that, in the final analysis, the matters under consideration include also learning what, why, when, and where to learn.

There is, to be sure, a restricted sense in which one has little control of learning per se -- when the latter is defined in physiological-psychological terms that refer to almost visceral or reflexive processes (although recent research [14] demonstrates the feasibility of training adults to improve recall, retention, and comprehension). But adult educators are more apt to consider learning a process controlled by the learner [25, p. 50] and learning how to learn a matter of the adult's having (or acquiring) the knowledge and skill essential to function effectively in the various learning situations in which he finds himself. Perhaps this can serve as a working definition.

When communicating about the process of helping the adult to acquire knowledge and skill concerning learning, the term "training" is helpful, despite the negative connotations it has for many educators. "Training" gets around the need to use unmanageable phrases like arranging for learning about learning how to learn. Thus we can provide "training" that helps the adult learn how to learn -- activities designed to accomplish that objective.

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[9](continued) was published by Harcourt Brace Javanovich in 1972. One interesting work dating back to 1935, by W. B. Pitkin, et al (McGraw Hill) focused on "training young people in the art of learning." It treated concentration, memory development, reading, and systematized living.

The Learner's Needs

The concept learning how to learn can be given additional objectification and meaning by reviewing briefly some of the major categories of need most frequently identified -- that is, what the learner needs to know.

If we look at adult education in the broadest, most simplistic terms, it is a process that involves the sub-processes of planning, conducting, and evaluating learning activities. Most adult educationists accept the desirability of "involving" the adult learner as much as possible in all three sub-processes. It then follows that, in addition to basic "tool skills," the learner needs this kind of knowledge and skill to function optimally in the three phases of the process:

	1.	How to (or help to) identify educational needs and interests
	2.	How to set realistic, attainable goals and objectives and provide for evaluation
Planning	3.	How to locate and appraise learning resources
	4.	How to select appropriate procedures or strategies
Conducting (during the learning activity)	5.	How to participate or inquire actively
	6.	How to cope with anxiety or fear
	7.	How to negotiate the resources and procedures utilized -- e.g. how to discuss, "encounter," play a role, learn by phone, watch a film, tour a museum, converse with a tutor, profit from a lecture, operate a tape player
	8.	How to give and receive feedback (often useful during the activity too)
Evaluating	9.	How to ascertain the extent to which objectives are met (and how efficiently)
	10.	How to carry out follow-up activities

[3;6;22;25;26;36;41;43;44]

As we said, the list and the one that follows presuppose an orientation to adult education and adult learning that places maximum responsibility on

the learner and views the instructor (if any) as a collaborator, facilitator, and co-learner. For a Skinnerian, or other behaviorist, many of these "needs" would probably seem gratuitous, if not irrelevant, since for him one might say that the show in the main ring only concerns itself with the process by which "the one who knows" arranges "contingencies of reinforcement" for those who don't know.

In addition to skills, the successful learner will require certain insights, understandings, and attitudes toward education and learning. Following are some of those most frequently cited:

- The necessity and benefits of continuing to learn
- That age, per se, is no barrier to learning and belief in one's ability to learn something is important
- The importance of accepting personal responsibility for learning
- The conditions under which adults learn best
- The importance of putting to use what is learned
- The need for real effort and perseverance to master some subject matter -- a language, for instance
- The naturalness of anxiety, occasional discouragement and of peaks, valleys, and plateaus
- The rights that he or she has as a learner -- to obtain feedback, to know what the instructor's goals are, to receive what the course description promises, to be warned of special factors that obtain (e.g. danger and expense)
- That he or she may prefer, and excel at, learning in some ways to others, and that one needs to understand oneself as a learner
- That resistance to change is normal -- by "becoming open" one increases the potential for growth
- That resources for learning lie all about -- including the knowledge possessed by one's co-learners
- That accumulated adult experience is an exceptionally important asset for learning

. That a balanced approach is advantageous in the development of a learning program -- not insisting on teaching yourself everything you need to know, for example

. That learning how to learn is worth one's time and energy

[3;22;25;26;41;43]

Some Special Contexts

In addition to these general, almost universal, understandings and skills, the learner can be expected to have certain needs that arise out of special considerations and contexts. These may derive from particular procedures to be used, subjects to be learned [9], or from "conditions" in which learners find themselves. A few examples may be helpful in an effort to round out perspective on the concept of learning how to learn. Others will receive greater elaboration in subsequent chapters.

A person about to undertake learning through travel-study may require special help. He or she may need to be oriented to the folly of trying to see or do too much during a tour. Tips for making travel as easy and comfortable as possible can be useful. The importance of and suggestions for pre-travel and post-travel study will need emphasis if more than entertainment is to transpire.

The adult returning to formal instruction after a long absence often needs special help. It may be necessary to learn to cope with ridicule or other negative pressures from friends and family and to understand that such pressures are not unusual.[10] One can benefit from understanding that it usually takes some time to "get back into learning" and that positive but realistic expectations can be helpful. If the learner is past middle age,

[10] In The Inquiring Mind (University of Wisconsin Press, 1963), Cyril Houle speaks of "the enemy" of "outright opposition...from family, associates and friends who surround the person who feels an inclination toward learning."

it can be encouraging to know that experience has shown most younger students to be quite amenable to learning with older ones.[11]

One who undertakes learning designed to produce what has been called "major personal change" often needs to know about certain implications and peculiarities of such activity. If one is entering an encounter group he should be aware that relatively intense feelings may be expressed. A yoga class can produce disturbing physiological changes (and muscle strains). Learning about psychic phenomema can be unsettling. Learning through hallucinogens may be extremely demanding and dangerous [8]. And becoming a true believer in something may result in post-learning behavior that will isolate or alienate one from friends and family.

One can also profit from learning how to learn when the approach utilized is "distance teaching" -- where teaching and learning occur in separate places. A major publication on the subject (correspondence study is one kind of distance teaching) foresees a trend toward teaching correspondence students how to learn [32]. Wentworth produced a guide to learning through correspondence study [45], and Hancock has identified some of the problems of learning through television [19]. Niemi warns against assuming that adult learners already possess the "visual literacy" skills necessary to take full advantage of educational films and television [33]. Wilson found that the use of how-to-study materials can help correspondence students succeed [47]. And it has been found that

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[11]Perhaps the best known of the many programs to facilitate re-entry into formal education is "Investigation into Identity," a sixty-hour experience conducted by the Women's Continuum Center at Oakland University in Rochester, Michigan. Mature women returning to schooling tend to have problems with concentrating, reading rapidly and note taking, according to Barbara Doty. See "Some Academic Characteristics of Mature Coeds," Journal of Educational Research, Vol. 61, No. 4 (December 1967), pp. 163-65.

the acquisition of certain skills can increase learner effectiveness under instruction by telephone, a technique increasingly combined with correspondence lessons.[12]

As a final example consider learning through the "listening group" -- which meets regularly to discuss radio or television programs. Groups are usually guided by layleaders, and broadcasts are often supplemented with printed materials. Frequently there is provision for two-way communication between listeners and broadcasters. Projects of this kind have been organized in more than thirty countries since 1927, with the Canadian Farm Radio Forum and the St. Louis Metroplex Assembly (television) being among the best known. Persons learning through this method need to be able to understand what is transmitted to them. They need to be able to discuss the meaning and implications of the transmission and successfully relate printed material to their viewing and listening, and their group conversations. They are often urged to take action as a result of their learning and thus must be able to determine appropriate forms of action and locate resources for help.[13]

Summary

Learning how to learn is a concept that comes well recommended and deserves our attention. It has meant different things to different writers. Learning how to learn appears to be a preferable term to learning to learn,

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[12]See "Adult Education by Means of Telephone," by Bernadine Peterson. Paper presented at the Adult Education Research Conference, Minneapolis, Minnesota, February, 1970. ED 036 758

[13]See John Ohliger's Listening Groups (Center for the Study of Liberal Education for Adults, 1967). An example of a manual for participants in a (television) program of this kind is "Quality of Life: The Puget Sound Coalition-Action Manual" (Seattle University, 1970).

or other possibilities, although it is something of a misnomer itself. There are general categories of understanding, knowledge, attitude, and skill commonly cited as those adults need in order to learn with effectiveness as well as needs that derive from special contexts such as procedural and subject matter requirements as well as the life situations that adults encounter.

Future historians may ultimately refer to the second quarter of the twentieth century as the era not of depression and war, but of the group.

J. R. Kidd in How Adults Learn

II. GROUP LEARNING

Since a great share of adult learning takes place in a group setting, we would expect that some of the adult educators interested in learning how to learn have concerned themselves with implications and applications of the concept in that context, as indeed is true. Many programs -- Great Books for example -- have been developed which call for the training of leaders or even all the members of the group. The group dynamics or laboratory learning movement has had a learning how to learn component and orientation [6]. The "Indiana Plan," developed by Paul Bergevin and his associates, focuses on learning how to learn in groups [3;4]. And much of the literature of the field, including that dealing with community development, has had a group learning orientation with a learning-to-learn dimension [25].

There is one sense in which most writing about the learning of both adults and children (until the recent spate of interest in self-directed learning) has had a group focus, and this derives from the fact that a class or audience constitutes a group. Thus for many professionals and laymen, a learning situation has characteristically implied a classroom setting--unless a discussion group, correspondence course, or other method of learning happened to be under consideration. But the great wave of experimentation and experience with small groups during the past four decades has brought to the fore the face-to-face group as a locus for learning and change and spawned technological innovations like the "T-group" and "Participation Training"--

ways of creating intensive group learning experiences. In this chapter we will treat learning how to learn in both the context of classroom and face-to-face group.

Advantages of Group Learning

Allen Tough [43] found through research that "self-directed" learners often turn over responsibility for planning to a group or its leader, and he calls the following the "attractive characteristics" of learning in a group:

1. Learning in a group, with the planning done by the leader or other group members, may be a highly efficient route for a given learning project.

2. The learner can have access to an expert instructor at much less cost than private sessions would entail.

3. A learner may choose a group because of the positive emotional benefits. Learning in the company of several others can generate and maintain a high level of enthusiasm and motivation.

4. Between group sessions, because he faces another meeting of the group soon, the learner may be motivated to complete the practice exercises, reading or other learning episodes that have been suggested.

5. The learner may feel better about his learning when he realizes that other learners, too, have problems, difficulties, and frustrations.

6. The members of a group can help one another in various ways.

7. A group provides the maximum range of values, beliefs, attitudes, and views to stimulate the learner to examine and perhaps change his own.

8. The learner may just assume that learning in a group is the best way, or the only way, to learn.

9. If the learner is facing a certain problem or responsibility, he may want to learn in the company of others who face a similar situation.

10. If the learner has firm convictions about the topic, if he feels anxious about it, or if it deals with values or issues, he may want an opportunity to state his own views and to interact with others.

11. Some people prefer the anonymity of a large group to an intimate, one-to-one relationship with an instructor.

12. The instructor or other group members may provide appropriate resources and facilities for the learner, or arrange for them to be available.

13. Attending any group, not just one designed for learning, can be a pleasant and stimulating experience.

14. The learner may gain some prestige or status by joining a certain group or attending a certain institution.

15. Some entrepreneurs who have developed a unique set of learning activities may guard them closely; consequently, the learner must attend one of their courses or workshops if he wants those learning activities.

He then lists these "negative characteristics" of groups:

1. The learner may not be able to find a group nearby with a convenient meeting time and an appropriate starting date.

2. The learner may not want to feel tied down to a set time each week.

3. He may simply want to gain enough knowledge to satisfy his curiosity, or enough skill to handle a specific responsibility, instead of learning a wider body of subject matter.

4. The learner may be unwilling or unable to leave his home for learning, or may hesitate to spend much time and effort travelling to a group.

5. The adult's efficiency in learning through a group will rarely be as great as it would if the same instructor were used in a one-to-one situation.

6. Using a group may require a large commitment of money (registration fee) or time before the learner is certain that he wants to spend that much on the particular project or program.

7. Unless he happens to find a group that fits his own goals and level, the learner may find that the content and procedures are not precisely what he wants or needs.

8. A group is usually a relatively inefficient way of learning a long sequence of detailed, well-established facts or skills.

9. In a group, only a small fraction of the total time can be spent listening to any one learner, or dealing with his unique concerns, difficulties, and feelings.

10. The learner may not want to let others see his ignorance, errors, or poor performance.

11. The learner may fear that he will encounter an instructor or group leader who is incompetent or insensitive. [pp. 136-39]

Knowledge, or at least awareness, of these kinds of characteristics are of potential benefit to the adult learner and anyone helping him to learn.

How To Use A Teacher

In 1958 Milton R. Stern, then an administrator in the liberal adult education program of New York University, wrote a set of guidelines for getting the most from the non-credit course. He stressed the importance of (1) active listening, (2) remaining open and receptive, (3) recognizing a difference between one's desirable role in an introductory as opposed to an advanced course, (4) expecting a certain amount of drudgery when learning certain skills, especially languages, (5) not being afraid to ask questions, (6) regular attendance, and (7) confronting the instructor when such action seems warranted:

> An adult student should not shy away from talks with teachers. Usually they [teachers] have reasons for what they do. True enough, their methods of instruction are and, indeed, should be, part and parcel of their whole outlook and personality. But anyone who has in his mind consented to teach has embarked upon an enterprise which can only be deemed successful if you as a student are satisfied. You will find most teachers of adults flexible and receptive to criticism, aware beforehand of the problems you wish to raise.
>
> Certainly a teacher should be 'interesting.' If a teacher doesn't have a bit of the actor in him, he -- or you -- won't stay the course. But the analogy should not be made too close. You are a student, not a member of an audience. The interrelationship between you and your teacher is basically not one in which you are entitled to be entertained. The excitement of learning is not in laughter or in the tragic catharsis described by Aristotle; education has its own quality and purpose, the increase of capability to deal with life. A teacher is a special person, not to be confused with baby sitter, repairman, psychoanalyst, or friend. If used properly, he will last a long time. [41]

In Continuing Your Education [22], Cyril Houle devotes a chapter to "Shared Learning." Here are some of his suggestions for profiting from group instruction:

1. Prepare yourself psychologically for each session.
2. Go to every session.
3. Go to the classroom in sufficient time to "get settled."
4. Choose a place to sit where you can see and hear and avoid distraction.
5. Hand in all assigned work on time.
6. Do more than the work assigned.
7. Concentrate on what is happening in class.
8. Review what happened soon after class.

Houle follows these suggestions with others for understanding the essence of a lecture (e.g., adaptive listening, balanced notetaking, identification of major points, critical thinking). He concludes with guidelines for sharing in discussion, for joining organized groups and for forming one's own group [Chapt. 8]. Virginia Warren [44] covers some of the same ground, though not so eloquently, in her book published three years later. Another book in the same vein, aimed at college students, is the fully programmed Quest by Cohen and others [11]. The University of Michigan and Ohio State University are among those noted for "how to study" programs for undergraduates [22, p. 30; 30, p. 235].

A writer who has read and synthesized much of the great volume of material about groups says that at least three characteristics are prerequisites to effective learning:

> . A realization by the members...that genuine growth stems from the creative power within the individual, and that learning, finally, is an individual matter

. The acceptance as a group standard that each member has a right to be different and to disagree

. Establishment of a group atmosphere that is free from narrow judgment on the part of the teacher or group members.[1]

These conditions would seem to be sufficiently broad to accomodate learning (and learning how to learn) in the classroom format and the face-to-face group.

All of this advice and spelling out of optimum conditions would presumably have positive effects in the teaching-learning situation and be of real value to adult learners. As presented, the advice might be said to rest on an assumption that people who need it will obtain and understand the printed resource and apply the insights -- i.e., that reading a book changes behavior. Obviously such a process can and often does take place. But it would appear that this kind of knowledge stands the best chance of being translated into action -- of helping adults learn how to learn -- when certain conditions exist:

when adult education institutions endorse and provide such materials

. when adult education instructors, leaders, and other key personnel integrate learning about learning into regular courses and other formats

. when specific learning how to learn orientation and training activities are made available.

The Laboratory Method

Between 1947 and 1960 a loosely affiliated group of social and behavioral scientists and educators devised and perfected an approach to learning in and about groups -- the training laboratory -- "...a temporary residential community shaped to the learning requirements of all its members [and one designed

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[1] J. R. Kidd in How Adults Learn (Association Press, 1973), p. 282.

for]...the stimulation and support of experimental learning and change [one where]...new patterns of behavior are invented and tested in a climate supporting change and protected from [its]...full practical consequences." The laboratory method designers deliberately focused their efforts on adults, for "The people...in control of our educational institutions are adults [and they need to] experience and validate new ways of learning for themselves" so that they might support similar opportunities for children [6, pp. 3-4]. The resulting movement (whether called laboratory learning, "group dynamics," or "human relations training") had considerable impact on adult educators. Some leaders in laboratory learning became quite influential in adult education circles (for example, Lee Bradford and Ken Benne). Some of the vast quantity of theory and procedure coming out of laboratory learning was adapted to the adult education context by men like Bergevin, McKinley, and Knowles. And many adult educators participated in "training laboratories," as they came to be known.

The original standard laboratory is a two week residential experience in which roughly thirty persons convene under the direction of several leaders or "trainers." Focus is on (1) learning about self and relationships with others, (2) learning from personal experience of learners themselves as they associate with one another, and (3) learning as collaborative investigation by the participants, who are expected to accept increasing responsibility for directing their own learning as the lab unfolds [16]. The participants receive theory about group phenomena, change, and human relations by means of reading and oral presentations made in general sessions. They take part in practice groups to develop skills in such techniques as role playing and such processes as listening. And each participant meets regularly throughout the lab with from ten to fifteen others in the now famous "T" (for training)

group that constitutes a kind of lab within the lab. This group, with fixed membership throughout the experience, can become a true laboratory for certain kinds of learning. Structure is minimal. Group members merely receive instructions to interact with one another and try to learn about their own behavior and about group behavior from observation and analysis of what happens in their group. The trainer "refuses to act as a discussion leader, but proposes to help group members to find ways of utilizing their experiences for learning" [6, p. 41].

Hundreds, if not thousands, of labs conducted roughly along these lines have been held throughout the USA and in numerous foreign countries - a great share of them under the auspices of the National Training Laboratories. They have been conducted with client groups which are heterogeneous as well as homogeneous (e.g., educators, clergymen, social workers, managers, therapists). However, since the middle and late sixties there has been a tendency for laboratory training to move in the direction of what has been termed therapy for normals, sensitivity training, or encounter -- in which the T-Group itself has evolved into the chief methodological vehicle (with the help of a variety of non-verbal and physical exercises).

Leaders in the laboratory learning movement identify these kinds of desired outcomes, which are expected to come in great part as a result of the small group activity: (1) increased sensitivity to emotional reactions and expressions in self and others, (2) increased ability to perceive and learn through attention to feelings, (3) clarification of values and the making of action more congruent with professed values, (4) increased skills in team building and other group member skills for back-home problem solving and action. They have these kinds of things to say about the learning process in the context in which they characteristically operate:

> The major method of learning employed is one in which participants are helped to diagnose and experiment with their own behavior and relationships in a specially designed environment. Participants are both experimenters and subjects in joint learning activities. Staff members or trainers serve as guides in the institutionalization of experimental and collaborative approaches to learning in the laboratory community [and]...guide participants in the transfer of these approaches outside the laboratory.
>
> The essence of this learning experience is a transactional process in which the members negotiate as each attempts to influence or control the stream of events and to satisfy his personal needs. Individuals learn to the extent that they expose their needs, values and behavior patters...Learning as a transactional process implies active negotiation among peers rather than dependence on superiors. It implies mutual help in coping with problems that connot be solved by "teacher." [6, p. 192]

This last underscores the essential difference between learning (and presumably learning how to learn) in a group as opposed to learning through the medium of the group -- "The T-Group, then, is a crucible in which personal interactions are so fused that learning results." [6, p. 194]

How then is the learning how to learn dimension to be isolated in the small group learning situation? How can it be identified, clarified and then passed on to an adult to enhance his learning skill? To a certain extent there seems to be the assumption and perhaps hard evidence that (at least in a properly conducted T-Group) a major outcome of small group learning is increased learning skill. In addition to the problem solving skills cited above and the ability to use raw experience for learning, proponents of the approach cite increases in participant abilities to cope with fear and anxiety, to demonstrate independence in learning, to give and receive re-inforcement through feedback and to understand that learning doesn't require the formal situations people normally envision. It is also felt that the small group experience frequently results in the identification of needs and capacities for further growth -- "new images of potentiality" in oneself [6].

Leland Bradford, one of the chief architects of laboratory training, sees learning how to learn as the first of the three major goals and purposes of the T-Group experience (along with learning how to give help and developing effective membership), with each participant expected to become "an analyst of his own process of learning." Learning how to learn involves (much of it through re-education):

- developing abilities to seek out and use the resources of others (or others as resources)
- becoming an effective helper and resource for others
- becoming active, reflective, and collaborative in the learning situation
- becoming more open to change
- developing group membership skills (e.g., skills of cooperative action, goal setting, listening, "diagnostic sensitivity")[2]
- learning to accept responsibility for "group movement" (progress toward goals)
- coming to understand the behavior and development of groups.

Bradford sees a process taking place in the T-Group by which a collection of individuals "develop a group" in which they can "participate effectively in the process of learning" -- a process involving exposure of problem area, collection of data, analysis, experimentation, generalization, and application to other situations. He thus describes a process that might be termed how to learn with a research or scientific orientation and approach to learning.

Bradford's Theory and Model

Bradford sketches the inter-relationships of the T-Group's three major goals, saying first, "learning better how to learn from continuing experiences

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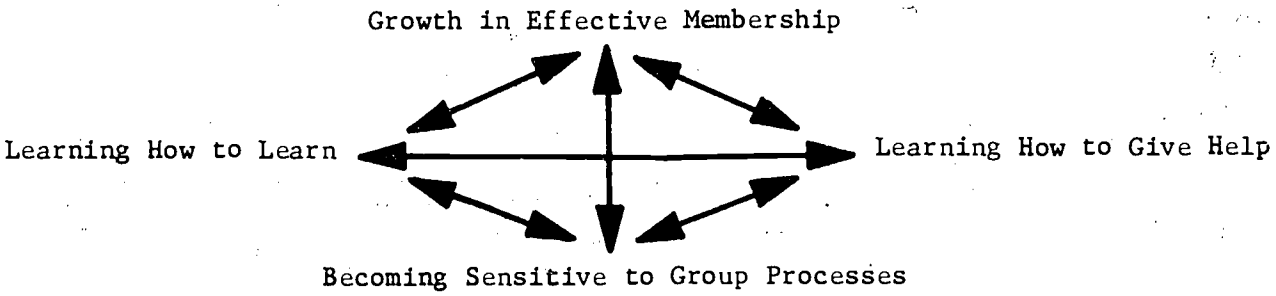
[2]Bradford termed the latter the most important of all member skills in Group Development (National Training Laboratories, 1961), p. 2.

and learning how to give help to others in their learning and growth experiences are interactive and reciprocal." Then, as the participant develops the skills of effective group membership and "creates conditions for learning about himself and about others,about the process of continued learning," a third dimension is added to the model. Finally, with the individual's development of sensitivity to group processes and individual behavior, which adds more "skill for continued learning," the result is an interactive, reciprocal model of purposes "whose integration comprise some of the major purposes of the T-Group." [6, p. 215]



In the seminal chapter in which he develops this learning how to learn theory in the T-Group and laboratory context [6, Chapt. 7], Bradford describes and examines eight central learning factors or dimensions of the experience: (1) the ambiguous situation (of an agenda-less, relatively unstructured group), (2) the identity stress (that individuals experience), (3) self-investment or participation, (4) collaboration and learning from peers, (5) motivation for learning, (6) experienced behavior and feedback, (7) group growth and development, and (8) trainer-intervention. As Bradford analyzes these salient dimensions of the T-Group experience, he describes the many-faceted sub-processes of an extremely complex process -- what group members experience as they

gradually coalesce into a productive "group" with a climate that engenders individual growth and team problem solving:

> To some degree an identity stress is created for each individual
>
> The group has not yet established ways to...utilize contributions [or]...confer membership
>
> ...how to handle individual anxiety
>
> ...clashes over leadership
>
> ...discussions usually wander in apparent aimlessness
>
> Gradually [they achieve] openness in shared feelings
>
> Learning and improvement follow in large part from the individual's struggle to find membership which both satisfies him and contributes to the group...
>
> A healthy balance between investment of self and withholding of self
>
> As learning increases membership becomes easier to accept
>
> ...gradually members recognize...that...individuals will learn only from their own efforts
>
> ...peers do not raise authority problems that inhibit learning
>
> As the group grows in its capacity to support experimentation, risk taking becomes easier [as does] readiness to experiment with new ways of behaving
>
> ...they find they can listen to other people
>
> ...the process by which [the] individuals develop a group in which they can participate effectively is the process of learning
>
> [A crisis in the group's life] ...the regression that follows; and the slow, painful process of reforming and repair may...be seen as the major event in their learning
>
> [The trainer's] interventions, or lack of interventions, have much to do with the process of the group...and the learning that results ...[but] it is not the trainer who controls process...it is the method of inquiry itself
>
> The trainer should help to develop a learning group that will be unlike customary groups
>
> ...keep present the task of developing a group as a way to learn
>
> ...take certain definite steps to help group members to develop learning processes [e.g., legitimizing the expression and analysis of feeling]

...to develop a climate in which learning can take place

...encourage the group to focus on here-and-now experience

...to help the group to internalize, to generalize, and to apply learning to other situations

The latter quotations, focused on the trainer role, make clear what Bradford anticipates the participants will be learning in the way of how to learn. The trainer role is seen as central along with the method itself in enabling this learning to take place. The trainer is enjoined to possess a "personal theory of learning and change" and a clearly realized set of values concerning his relations to others.

However, we do not encounter in Bradford's discussion as clear a picture as we might wish of how the trainer and group members identify what they have learned about learning itself, how what they have learned is to be transferred to other situations, and how trainers foster learning about learning. We don't know if trainers intervene or conduct post-session critiques about "learning about learning" or whether participants are encouraged to keep logs about insights into the learning process. Examination of materials used as trainers' manuals or the equivalent, and of training-of-trainers literature, interviews, and observation might be carried out to try to determine the extent to which such learning has been fostered and has apparently transpired.[3] This would take us beyond our present scope and purposes. What does seem clear and safe to say is that the lab and T-Group "graduate" has usually learned, at the minimum: (1) how to participate in an intensive small group learning experience, and incidentally whether or not it's a way he or she prefers to

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[3]There is evidence that transfer of learnings are facilitated to the extent that the individual perceives clear learnings in himself, regard them as relevant, and develops specific "action images" and plans. See Matthew B. Miles, "Personal Change Through Human Relations Training" (Horace Mann Institute, Columbia University, 1957).

learn, (2) to learn through the analysis of experience -- as (or soon after) it happens, (3) that relatively unstructured learning situations can lead to change and growth -- especially in the affective domain, and (4) that personal involvement in a small learning group can release considerable energy and bring about motivation.[4]

In retrospect, it now seems clear that Bradford's theories about learning how to learn in the small group were not destined to receive in the ensuing decade the attention and elaboration they deserved from other human relations trainers, researchers and theorists. This was probably the result of the movement's veering away from the clearly defined and researchable earlier structures toward the improvisation and freewheeling of the "Esalen era," along with the enfolding of laboratory learning into larger contexts like organizational development theory and practice, which sees education as only one of many interventions to be employed by the change agent.

The Indiana Plan and Participation Training

Through developmental and action research over more than a decade Paul Bergevin, John McKinley, and several associates developed an approach to learning in groups that has come to be known alternately as the Indiana Plan and participation training. The Plan is at once a philosophy, psychology, and methodology for adult education as well as a training system for teaching

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[4]A vast quantity of research about laboratory learning has been summarized as attesting to the fact that the experience produces positive changes in (1) learner ability to solve problems, (2) ability to "relate" to others and (3) ability to "function" in groups. See Carl Rogers on Encounter Groups (Harrow Books, 1970), pp. 129 and 156. For a discussion of (and bibliography concerning) some of the issues and problems and perceptions of laboratory learning in its later stages of development, see Arthur Blumberg's Sensitivity Training: Processes, Problems, and Applications (Syracuse University Publications in Continuing Education, 1971).

people to utilize the approach in various settings. The philosophy appears to owe much to Eduard Lindeman and John Dewey, the psychology much to Nathaniel Cantor. The methodology evolved from a combination of Bergevin's early experiments in the training of discussion groups, adaptations from human relations or laboratory learning, and experimentation in the field (much of it in such institutional settings as churches, hospitals, and public libraries). The major vehicle for teaching this approach has been a one-week residential insitute somewhat like a laboratory, of which perhaps four hundred have been conducted. The development of this approach to learning and learning how to learn has earned Professors Bergevin and McKinley a citation as two of nine living adult educators who have made major contributions to the field [40]. McKinley describes participation training as a "learn-by-doing introduction to applied group dynamics, designed to sharpen participant skills of participation." It involves practicing behaviors that facilitate communication about ideas and decision making and behaviors useful in planning and conducting group discussion and various other large and small group educational programs.[5]

The seminal work of the Indiana University group was Design for Adult Education in the Church, first published in 1958 -- a kind of learner's textbook and manual for the approach [3]. Part One ("Principles") constitutes a seventy page answer to the question "Under What Conditions Do Adults Learn Best?" The answers can be summed up as follows, using a paraphrase of each major section heading (followed by the wording used in the book) together with selected quotations:

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[5]See "Participation Training: A System for Adult Education," Viewpoints, Vol. 51, No. 4 (July 1975).

Adults Learn Best

1. When They Accept Maximum Responsibility for Learning (Active Individual Participation)

   Active physical and verbal participation, as well as listening, play important roles.

   ...we should willingly help in all ways which might ensure the ultimate success of the educational venture.

   ...learn to become a learning team.

   ...[sometimes] we relieve ourselves of responsibility by projecting and rationalizing.

   ...learners need to express...resistance actively and to be accepted as they are.

   Productive learning takes place best when we're ready to learn, when we are interested in what we are doing, when we want to do it, and when we feel right about the people with whom we are learning.

   We try to recognize our real needs, the...meaning of what we feel, and try to see ourselves as we really are in relation to others.

2. When They Share in Program Development (Sharing in Program Development)

   ...learners [should] become intimately involved in every phase of the program.

   ...courses are too often...planned for the learner.

   ...the whole learning group...takes part in the planning...becomes responsible for the physical set-up...investigates and secures resource persons and materials...establishes the goals and evaluates the progress.

   ...try to discover the real needs common to the group.

   Almost everyone can learn new ideas at any age and almost certainly has a tremendous untapped capacity for learning.

3. When They Participate on a Voluntary Basis (Voluntary Learning Activities)

   Force will be present in one form or another....It [illegible] from each one of us [learners] as we extend consid[illegible] over ourselves through self-discipline (internal) o[illegible] be placed on us by others (external).

When the pressure to learn is from within us, based on a disciplined free will, we are well on our way toward a successful adventure in learning.

In the last analysis the individual must feel that he wants to learn because he sees a reason for learning.

In a voluntary adult learning activity we realize more fully that people can be taught but not 'learned.'

The voluntary nature of the program exhibits itself in two areas: attendance and participation.

4. When The Climate is Appropriate (Freedom of Expression)

Freedom of expression is necessary in order to establish a climate in which creative learning can flourish.

[The learner] must...feel that he can say what he honestly feels and that his right to his opinion will be accepted.

The participants [get]...ready to learn together by sharing, listening, and talking....They [come] to feel they can...openly express their ignorance and their doubts without being laughed at, scorned, or talked about...

...three enemies of productive learning --- fear, suspicion, and pride.

...through freedom of expression, tensions are relieved [which] ...is also learning.

Freedom...must be balanced by our willingness to be responsible for what we say.

[The learner should] learn increasing self-discipline and thus lessen the need for discipline from without.

5. When Appropriate Procedures Are Utilized (Formal and Informal Methods of Education)

Participants should be trained to select the methods most appropriate for meeting their educational needs.

Using a variety of methods is...desirable.

...group discussion, intelligently conducted can help...

Changes [in procedures]...help enrich the program and maintain ...interest.

6. When What is Learned is Put To Use (Outward Growth)

...an ever-expanding, outward-moving series of experiences.

Those who learn the...meaning of 'corporateness' [for example] by studying and talking about it, and then by practicing it in service to others are moving outward.

We should carry [new]...ideas into other organizations...

7. When They Learn How to Learn (Training for the Learning Team)

This section describes the specific "roles" for which training is provided in training institutes for persons participating in this approach. These include group participant (i.e., member), leader, resource person, and observer. The role of the trainer is also outlined -- a person qualified to teach the approach to others.

The remainder of the book describes the action steps for implementing the above principles and conditions in a local church or comparable setting. In outline these steps can be summarized as a small group's becoming first a "learning team" through the guided practice of "discussion teamwork" activities, then a skilled planning group that plans and evaluates group educational activities with and for others in their organization or community environment.

Several other books by Bergevin and/or his associates deal with procedures useful in implementing the theory of adult learning and learning how to learn sketched above. One, A Manual for Discussion Leaders and Participants (Seabury Press, 1965), sets forth the mechanics of group discussion, the procedural and training mechanism upon which much of the concept "training for the learning team" depends. This book was gradually supplanted by Participation Training for Adult Education [4], which added more process dimensions, descriptions of the trainer role, and discussion of typical learning problems of groups using the Indiana approach. A Guide to Program Planning (John McKinley and Robert M. Smith) and Adult Education Procedures (both published in 1963 by Seabury), focus on group planning processes and presentation and discussion techniques. The latter book states at the outset that one assumption the book rests on is that "all persons participating in adult

education need to learn something about their own responsibilities as learners. They need to learn how to learn in a cooperative and mutually supporting manner...." to become a learning team. Adult Education Procedures, co-authored by Bergevin, Smith, and Dwight Morris, was in part an expansion of an earlier book by Bergevin and Morris, Group Processes for Adult Education. The latter was published in the fifties at Indiana University and later (1960) released by Seabury--which was also true of A Manual for Discussion Leaders and Participants mentioned above (that Morris also co-authored). John McKinley published Creative Methods for Adult Classes in 1960 (Bethany), in addition to techniques it contains "conditions for effective group participation" and was designed primarily for use in adult religious education. Bergevin's A Philosophy for Adult Education (Seabury, 1967) reiterates the learning how to learn concept and calls participation training one major type of systematic adult learning, using the term somewhat synonomously with what might be called a participatory approach requiring "trained" learners and contrasting it with both random learning and "The School Type" of adult education.

Meanwhile a growing body of writings about the Indiana approach has developed. Thirty-five are cited in Adult Education for the Church -- an updated and abridged version of Design for Adult Education in the Church [3]. These describe experiments, theory building, training outcomes, even attacks on the approach.[6] Finally, theory and research completed and needed were brought up to date in 1975 with the publication of "Participation Training:

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[6]At various times the Indiana approach, like T-Group learning, has been charged with (1) tending to neglect "content" because of over-concern with "process," and (2) utilizing too much jargon and technical vocabulary. The first charge is not borne out by careful examination of the literature but doubtless has been justifiably made of some adherents. The second charge would appear to be a matter of taste and part of the price to be paid for developing skills in learning in groups.

A System for Adult Education" [40]. This publication traces the origins of the Indiana approach (using the "participation training" rubric) back to the 1930's and reminds readers that the approach "stressed androgogical procedures long before [Malcolm] Knowles popularized the concept of andragogy."

As concerns needed competencies for learning in groups, it is useful to summarize what the Indiana Plan says. The learner needs to understand the conditions under which adults learn best. He needs discussion, planning, and evaluation skills. He needs knowledge of various procedures for learning in groups. He needs to know how to participate in group analysis of a learning activity after it is conducted. And he needs to increasingly accept responsibility for active participation as a member of a "learning team" and for putting new knowledge to work.

Some advantages of the Indiana Plan or participation training as a theory and method for learning how to learn, would appear to be:

1. Learning theory, learning how to learn, and training for learning how to learn are effectively integrated.
2. The approach is relatively flexible and adaptable.
3. It has always possessed a practical "application-orientation," as evidenced by the variety of manuals and handbooks for the learner.
4. Despite the fact that intrapersonal and interpersonal processes are dealt with, strong pressures and anxieties are usually not generated.
5. Persons with limited formal education can use the approach, and to teach its use to others does not require advanced professional education.
6. The training group technology has been anchored by a substantial body of "philosophy" and learning theory.
7. As with the laboratory method, a clear focus on both the individual and the group has usually been maintained -- at least by those who developed the system.

Community Development

Community development, sometimes called community education, is another major educational context with a learning how to learn component, much of it centered in groups. Leaders in the movement usually define community development as a process--one by which a broad basis of local initiative is mobilized to undertake action programs to solve problems and meet needs identified by the people concerned (e.g. in a neighborhood or town). This process is usually set in motion by the "outside" leadership and stimulus of a presumably neutral agent like a university or government consultant.

An example of community development known throughout the world is the "Antigonish Movement," which had exceptional impact on the lives of farmers and fishermen in Nova Scotia as a result of a variety of related activities carried on through the extension development of St. Francis Xavier University. In addition to bulletins, radio broadcasts, conferences and lectures, hundreds of local study clubs or discussion groups (which often led to community action) became operative. These face-to-face groups have been called the key to the success of the Antigonish Program. Not only did relatively unlettered people learn to deal in ideas and consider alternatives in these groups, but when the participants attended rallies and conferences "Men who were never before known to speak in public were able to stand up before large audiences and discuss intelligently the problems of the day."[7]

In one model for community development frequently described in the literature a program, which may take several years, begins with a small nucleus group of concerned citizens who begin meeting regularly on a voluntary basis to

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[7]See Alexander Laidlaw's The Campus and the Community (Harvest House, 1961), pp. 74-75.

explore community problems, resources, and alternative courses of research and action. This group typically undertakes one or more limited action projects, evaluates, and considers new alternatives. Additional nucleus groups may form. Outside consultative help is often called in. Through a gradual expanding and coordinating process greater numbers of persons are eventually involved, broader community problems attacked on a long range basis, and new structures devised for continuing dialogue, the expression of local initiative, and interface with traditional community agencies. A variety of procedures get used along the way, many of them involving learning in groups: workshops, conferences, research teams, media campaigns, and (in recent years) confrontation activities. Successful participation in the nucleus groups requires the same skills of collaborative learning cited earlier in the chapter. Success in some of the other activities can be aided by the "inquiry skills" cited in Chapter III.

William and Loureide Biddle, prominent activists and theorists in the movement, clearly emphasize the educational aspects of community development. They refer to community development as:

> ...an educational enterprise (with methods that disturb many educators)
>
> ...a group method for expediting personality growth
>
> ...a process of dynamic growth
>
> ...a process of self-chosen change
>
> ...a process for growth within individuals, groups, and communities
>
> ...a process that involves study, decision making, action and evaluation in a collaborative mode.

An important function of the nucleus group the Biddles describe as reflecting on the events that transpire in order "to learn from them."[8]

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[8]See The Community Development Process (Holt, Rinehart & Winston, 1965).

The person who has been actively involved in community development over some time, then, can be presumed to have learned discussion and problem solving skills, planning and evaluation skills, and skills for taking community action. He may have learned to collect and appraise data and (keep records) as a basis for decision making. He may have lear special skills like the utilization of VTR equipment.[9] He may have learned how to mobilize public opinion to stimulate awareness of the need for learning. Relying less on professionals and traditional modes of instruction, he may well have come to appreciate the community itself as a locus for learning.

Summary

A distinction can be made between learning in a situation where people are grouped (as in a classroom) and one in which the intent is to utilize the small face-to-face group as a medium for collaborative learning. Suggestions for effective participation in classes and comparable groups pertain to such matters as careful preparation, utilizing a teacher effectively, active class participation, and developing a positive attitude toward learning. It is also useful to know the advantages and disadvantages of learning in groups. Analysis of laboratory learning along with participation training indicates that what the learner needs to know to function well in the face-to-face learning situation includes the skills of collaborative learning, procedures for planning, conducting, and evaluating group learning activities, and how to use here and now experience as a means of learning. Community development has a learning how to learn dimension, much of which is centered in group learning.

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[9] Experience in Canada shows that "ordinary citizens" can learn to produce video tapes (about themselves and their communities) that stimulate community action. See Dorothy Todd Henaut, "The Media: Powerful Catalyst for Community Change," in Mass Media and Adult Education, edited by John A. Niemi (Educational Technology Publications, 1971).

> The adult learner of the future will be highly competent in deciding what to learn and planning and arranging his own learning. He will successfully diagnose and solve almost any problem or difficulty that arises. He will obtain appropriate help competently and quickly, but only when necessary.
>
> Allen Tough, The Adult's Learning Projects

III. SELF-DIRECTED LEARNING AND LEARNING STYLE

The fact that this chapter follows one on group learning should not be interpreted to mean that the latter and self-directed learning are in opposition or are mutually exclusive. Whatever it is, self-directed learning does not preclude the receiving of help from others and usually involves it more often than not. But there is both an orientation to learning and way of looking at learning processes to which the term self-directed is increasingly assigned. Other terms encountered in the literature include self-planned learning, independent learning, self-education, self-instruction, and autonomous learning [12;26;37]. This orientation emphasizes a person's establishing and maintaining the major share of the responsibility for initiative and motivation in the planning and carrying out of his own learning activities. The processes involved include those of diagnosing needs, formulating goals, and choosing resources and methods. When the adult learner assumes such responsibilities many consequences follow for himself and for those who would help him to suceed -- to learn how to learn on his own or with a little help from his friends.

Adult educationists have often stressed the need to develop as much autonomy on the part of the learner as possible [3;6;16;25]. But interest in and clarification of the concept of self-directed learning has recently

accelerated, to a great degree, as the result of the research of Allen Tough, which opened a rapidly expanding line of inquiry [43]. Tough and his associates have studied the deliberate learning efforts (the "learning projects") of men and women--seeking to determine how common such efforts are, what is learned, and how it is learned. People's behavior when planning their own learning projects was studied as was the performance of the self-teaching adult. It has been established that adults spend a great deal of time in episodes where the intent to learn is clearly the primary motivation: "Almost everyone undertakes at least one or two major learning efforts a year...the median is eight projects a year, involving eight distinct areas of knowledge and skill...it is common for a man or woman to spend 700 hours a year in learning projects." [43, p. 1]

Tough sees the process involved in carrying out a learning project as involving such major steps as the following:

1. Deciding whether or not to undertake a particular project under consideration
2. Deciding whether the planning will be largely left to one's self, an object (e.g., printed material), an individual consulted for this purpose (e.g., a golf professional) or to a group
3. Setting goals, examining and choosing resources and methods
4. Arranging for the learning episodes themselves
5. Evaluating learning outcomes

Retaining control of the planning oneself has been found to result in learning projects of greater duration, impact, and payoff. The entire process has been found to be a complex but understandable one that invites further research about each of its phases. The implications for adult education institutions are profound--for example, that agencies should be devoting much more effort to assisting adults to plan and carry out their own learning projects and perhaps less to programming for them.

Knowles also sees self-directed learning as a process--one in which individuals "take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes." He contrasts it with "teacher-directed learning," which he says assumes (1) that learners are materially dependent, (2) that their experience is of less value than that of the teacher, (3) that a given set of learners will be ready to learn the same things at a given level of maturation, (4) that learners are subject oriented, and (5) that external rewards are good motivators. Though teacher-directed learning is acknowledged to be useful and necessary, Knowles terms self-directed learning the best way to learn--a lifelong prerequisite for living in a world of ever-accelerating change. He also feels that the learner can retain a measure of self-directedness even when under instruction by maintaining a "probing frame of mind" [26, p. 10-21].

Alan Knox links up continuing professional education--an area of adult education undergoing great expansion--with the concept of self-directed learning. He has developed a rationale for their interrelationship and a persuasive case for the need of the health professional in particular to become skilled in the lifelong direction of learning activities related to vocation. Knox sees the self-directedness of the professional who continues his education "reflected in his selection of objectives that have high priority, followed by his selection from a range of learning activities that are most appropriate for the specific circumstances he confronts." The types of learning activities Knox recommends for self-directed learners include printed media, electronic media, informal group (including peer networks and consultants),

formal groups (including in-service and professional association activities and "health-care audits"), along with tutorial arrangements [27].

Some Competencies

The person who directs his own learning will usually require a relatively high level of skill in the use of the basic tool subjects. We say usually because it is clearly feasible for, say, an illiterate tribesman in the bush to undertake successfully a self-directed learning project. But in societies with technological sophistication the vast share of resources must useful for learning require the ability to compute, to read, to view, to listen with comprehension, and the ability to communicate effectively with others. Going one step further, Knowles [25], seeking to develop a model of lifelong education, cites the following skills for "self-directed inquiry," which learners should possess by the time their schooling is over and they assume the adult's life roles:

1. The ability to develop and be in touch with curiosities. Perhaps another way of describing this skill would be the ability to engage in divergent thinking.

2. The ability to formulate questions, based on one's curiosities, that are answerable through inquiry (in contrast to questions that are answerable by authority or faith). This skill is the beginning of the ability to engage in convergent thinking or inductive-deductive reasoning.

3. The ability to identify the data required to answer the various kinds of questions.

4. The abilit to locate the most relevant and reliable sources of the required data (including experts, teachers, colleagues, one's own experience, the various audio-visual media, and the community).

5. The ability to select and use the most efficient means for collecting the required data from the appropriate sources.

6. The ability to organize, analyze, and evaluate the data so as to get valid answers to questions.

7. The ability to generalize, apply, and communicate the answers to the questions raised.

These competencies themselves become tools for self-directed learning that rest in turn on the tool subjects mentioned just above. For the adult who lacks the latter skills adult educators attempt to provide literacy or basic education programs. For bringing about some of the other competencies and states of mind in Knowles' list, we do not have comprehensive programs, but potential opportunities for their development exist in various adult education activities that can be undertaken in a group or on one's own (e.g., courses in logic and science).

The basic tool skills themselves are usually cited as important by the adult educationists and others who concern themselves with self-directed learning [25;26;43]. Some writers listed in our bibliography have given guidelines and exercises for the fuller development of such skills:

Reading and Retention	[2;11;14;22;39;44]
Listening	[11;22;38;39;44]
Studying and Critical Thinking	[2;11;13;20;22;38;39;44;47]
Writing and Speaking	[11;22;39]

Also important is learning how to become efficient in absorbing and sorting information, "processing" ideas, and achieving understanding and application once ideas are in the mind. According to Knowles, the successful self-directed learner should possess the understanding that his kind of learning requires different assumptions about learning and teaching. It also requires accepting oneself as a "self-directing person." The learner should be able to design a useful plan for learning. This can be done by following the steps of scientific inquiry or by working out a learning contract. The contract provides for objectives, resources and strategies, evidence of accomplishment,

together with criteria and means of validation. The learner will succeed to the extent that he possesses skill in (1) diagnosing his own learning needs realistically, (2) relating to peers and teachers collaboratively, (3) translating needs into attainable objectives, (4) relating to sources of help, (5) identifying and utilizing resources and strategies for learning, and (6) collecting and validating evidence of accomplishment. The book contains a variety of aids and exercises to assist in developing these understandings and skills [26].

In addition to awareness that self-directed learning is a commonly and successfully used route, Tough cites the following knowledge and skill as useful to the self-directed learner:

- Knowledge of the basic process of planning, conducting, and evaluating learning activities
- Ability to choose what one wants to learn about
- Ability to select the appropriate planning approach to be used (from among self, an object, another individual, or a group)
- Ability to direct one's own planning when that course of action is elected
- Ability to make sound decisions about the location, the time, and the place of learning
- Ability to gain knowledge or skill from the resources utilized
- Ability to detect and cope with the personal blocks to learning that everyone encounters
- Ability to renew motivation when it lags
- Ability to evaluate and get feedback about progress.

Tough suggests gaining these skills from special training opportunities to be provided by adult education agencies and through printed materials. He suggests that, although useful examples of the latter are available, not enough of this material is addressed to the planning of self-directed learning, probably the most critical part of the process [43].

Learning From Experience

Learning from and through everyday experience may constitute another aspect of self-directed learning--at least it seems to have its greatest potential application in that kind of learning. To be sure, so-called random learning is a dimension of a great deal of life experience. But the prospective benefits of making everyday experience more meaningful are large.

The person who systematically looks back over all or a part of life in a search for meaning, lessons, or implications seeks to learn from experience--just what writers of autobiography do; and one of the greatest entitled his The Education of Henry Adams. Much of travel experience has at least a partially realized dimension of education. The person who deliberately takes a job or a tour of duty in the armed forces in order to "grow up" or "mature a bit" assigns credence to the idea of learning from experience. Casteneda speaks of the value of learning to see the world around you afresh each morning and of learning to ready yourself for new experience [8]. And the provision of opportunities for "unfreezing" and looking at oneself more objectively has been advocated as an ideal first phase of some long term adult education programs [25].

Carl Rogers goes so far as to say that the most socially useful learning is the learning of the process of maintaining a continuing openness to experience. He speaks of his own learning as "letting my experience carry me on, in a direction which appears to be forward, toward goals that I can but dimly define, as I try to understand at least the current meaning of that experience." Although neither he nor apparently anyone has clearly mapped out all the processes involved in learning by and through experience, Rogers clearly is

assigning considerable value to that process and talking about it in the context of self-directed learning.[1]

The novelist, too, has something relevant to say. Laurence Durrell describes the heady experience of becoming immersed in another culture, saying of one of his characters, a European living in Egypt:

> Mountolive...suddenly began to feel himself really penetrating a foreign country, foreign moeurs, for the first time. He felt as one always feels in such a case, namely the vertiginous pleasure of losing an old self and growing a new one to replace it. He felt he was slipping, losing so to speak the contours of himself. Is this the real meaning of education? He had begun transplanting a whole huge intact world from his imagination into the soil of his new life.[2]

The idea of learning from resources found in one's immediate environment has frequently been put forth. The possibiiity of learning from children has been suggested, and not only by the poet Wordsworth [37]. Knowles writes, "Every institution in our community--government agency, store, recreational organization, church--becomes a resource for learning, as does every person we have access to..." [26]. Zetterberg [48] has described principles for self-education through museums. Harry Miller [30] discusses "The City As an Experience Context" at some length; and an entire book has been devoted to utilizing the people, places, and processes of the modern city for learning [5].

In a section called "Learning to Learn" in his chapter on "The Autonomous Learner," Miller poses this interesting question: "How might we go about improving the general ability of the adult to learn from his own experience?" He identifies some "personal limitations" to learning from experience: the

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[1] On Becoming A Person (Houghton Mifflin, 1961), pp. 275-77. James Whipple said almost twenty years ago that adult educators "must help learners to learn from experience". See Especially for Adults (Center for the Study of Liberal Education for Adults, 1957).

[2] From Mountolive (E.P. Dutton, 1959), p. 22.

tendency to prejudge experience, and an inability to attain the necessary objectivity to learn (through conversation, for example); the tendency to approach experience passively (which he ascribes in part to American family structure and to urban environment); the tendency of the individual to focus on differing and limited aspects of whatever reality he attends to (resulting in "differential interpretation of experience"). As a result, "all of us learn poorly, lopsidedly, and wrongly from some experiences and not at all from others, because we do not know how to compensate for human frailities, how to frame the kinds of questions which...can make experience meaningful, or how to look for connections and interrelationships which might be relevant to interpret experience." [30, p. 230]

Miller goes on to sketch a program to train people to learn more effectively from on-going experience and encourage reflection about experience. He refers to one year-long experiment of this kind financed by the Center for the Study of Liberal Education for Adults, saying that helping the subjects examine their own learning processes proved to be difficult: "The faculty team found it easy to be seduced by the interesting concepts involved in the experience and seldom reserved enough time for retrospective discussion" [p. 235].

It is clear that little more than the surface of the potentially rewarding matter of learning from everyday experience has been examined. To go further will require (1) clearer criteria for separating this kind of learning from purely random learning, (2) further clarification of obstacles to this kind of learning, and (3) experimentation with training designs for facilitating learning how to learn from experience.

Learning Style

There is a growing body of research and experience to support the idea

that learning style is a viable concept--one that lends itself to further research and has major implications for adult education theory and practice and for learning how to learn. The term learning style itself is used to refer to methodological references, to mental processes, and to such dichotomies as teacher-directed versus self-directed learning. Knowles encourages his reader to adapt the ideas in Self-Directed Learning to his own "style" and to learn from the book in his own style [pp. 9-10].

In that brilliant novel, Zorba The Greek, the English co-protagonist explains to a puzzled Zorba his theory that there are "three kinds of men" --those who live for self, or for others, or those who strive to live the "life of the entire universe." Zorba listens and replies, "Boss...if only you could dance all that you've just said, then I'd understand," thereby demonstrating the insight of an unlettered man into his own "learning style," at least with regard to the achieving of understanding. Zorba clearly prefers learning about ideas through action and through observation to learning through words.

Personal preferences for how one best goes about learning are a major aspect of what the term adult learning style is characteristically used to convey. These preferences can have several components or dimensions. Preferences involving the basic orientation one has toward learning on one's own versus learning in the company of others is one component. Another is the amount of structure or authority one is most comfortable with [23;27;32;42]. Preference for collaborative versus competitive learning has been identified as another factor. Procedural or methodological preferences come into play, as when we hear advocates of discussion put down the lecture method or vice versa. People have preferences with regard to when, where, and at what pace they learn [43]. And this preference (or disposition) has also been divided

into such categories as learning through visual, aural, and tactile means.[3] Patricia Cross advocates taking both learning rate and learning style into account when helping adults learn and cites some current implications:

> The acceptance of individual differences in learning rates is promoting such innovations as flexible scheduling, self-paced modules, and mastery learning. Differences in styles or preferences are recognized through the introduction of such alternatives as computer assisted instruction, the use of peer tutors and faculty mentors, and experimentation with a wide variety of learning media and teaching strategies.[4]

As concerns the amount of authority and structure the learner prefers (or most profits from), Tough states that a large proportion of the literature of education deals with such matters as freedom, control, authority, and autonomy. The vast bulk of research pertaining to these matters focuses on the degree to which someone (e.g., teacher) exerts control over others. He discusses his own conceptualization of responsibility for the planning of personal learning projects in relation to a way of describing "help" and "the helping relationship" between a learner and any one of his helpers within any type of learning project. He identifies several variables as useful for understanding and researching the matters of freedom, control, and authority--e.g., how much help the learner wanted from the helper and the extent to which the helper influenced the learner's decisions [43, pp. 177-78]. Among the implications of this are the following: (1) adult learners need to understand how much help they require at a given stage of a learning project, how to get it, and how to tactfully resist getting more help than they need; (2) facilitators

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[3]See "Styles of Learning" by Frank Riessman in NEA Journal, Vol. 55 (March 1966), pp. 15-17. Riessman says that styles are probably laid down early in life and not subject to fundamental change.

[4]See "The Elusive Goal of Educational Equality," Adult Leadership, Vol. 23, No. 8 (February 1975), pp. 227-32.

of adult learning need insight into the fact that some learners want more help than others and sensitivity to how much control to exert, when, and over what processes.

Charles Humphrey has investigated the adult's preferences for control of in-class (non-credit) learning activities. He finds greater interest on the part of the learners in having control over "general direction" and over-all goal-setting than over such processes as planning, conducting, and evaluating. Persons learning about issues apparently want more control than those who are learning skills, according to Humphrey [23].

Michael Moore speaks of the "truly autonomous learner" who will not give up "over-all control" of the learning processes. Dealing with correspondence study and other distance teaching and learning programs, Moore offers an engaging model for understanding the degree to which instructional programs "accomodate the autonomous learner" in the planning ("preparation"), conducting ("execution"), and evaluation of learning activities. There is no reason why the model cannot be extended to other teaching-learning contexts and situations:

> We are placing programs in appropriate positions on a continuum, with those permitting the exercise of most autonomy at one extreme and those permitting the least at the other. For every program, we seek to identify the relationship between learners and teachers, and where control of each instructional process lies, by asking:
>
> Is learning self-initiated and self-motivated?
> Who identifies goals and objectives, and selects problems for study?
> Who determines the pace, the sequence, and the methods of information gathering?
> What provision is there for the development of learners' ideas and for creative solutions to problems?
> Is emphasis on gathering information external to the learner?
> How flexible is each instructional process to the requirements of the learner?
> How is the usefulness and quality of learning judged?

By this subjective, inductive method we can put together a typology of distance teaching programs, classified by the dimension of learner autonomy:

	Preparation	Execution	Evaluation
1.	A	A	A
2.	A	A	N
3.	A	N	A
4.	A	N	N
5.	N	A	A
6.	N	N	A
7.	N	A	N
8.	N	N	N

A = Autonomous
N = Non-Autonomous

In this typology, programs are placed in a hierarchy ranging from 1 to 8:

1. Those giving the learner complete autonomy.

2. Those in which the learner's progress is judged by an external agent -- his teacher, his college, or an examining authority.

3. Those in which the learner identifies his problem and goals and evaluates his progress, but in the course of information gathering is controlled (as is the case in programmed instruction).

4. The unusual program type which gives the learner no control of the executive and evaluative processes once he has defined his own problems and goals.

5. Also uncommon, the type in which execution and evaluation are learner controlled.

6. The most uncommon, the type in which the student evaluates although he has had no control in preparing or executing.

7. By far the most common, those programs in which the student has some control over the executive process, but the goals are prescribed by his teacher and he is evaluated by an external agency. The majority of school/college independent study programs fall into this category.

8. Finally, like AAA, NNN programs--which cannot exist in reality, since no learner is either entirely free of others' influence or entirely dependent on others. These are theoretical constructs which describe the bounds of reality [32].

This model helps to objectify the shadowy areas of autonomy and control and shows potential for further research about learning and learning how to

learn. Can it be further demonstrated, for instance, that greater learning gains result from greater learner autonomy, as is being claimed? And which of Moore's types of programs result in greater learning gains?

Cognitive Style

"Cognitive style" may or may not be used synonymously with "learning style." It refers to the ways people receive and acquire information (and thereby learn)--the selecting, organizing, and processing of experience in the environment. It has been defined as "the stable individual preferences in mode of perceptual organization and conceptual categorization of the external environment." Cognitive style is believed to be consistent across learning situations and independent of intelligence. There appear to be stable individual differences in intellectual performance among adults who have no "organic deficit."[5]

Researchers into cognitive style study such matters as individualistic ways of preceiving, remembering, thinking, and problem solving. One classifying concept they use with implications for educators is that of the analytical versus the intuitive learner. There is evidence that some learners perceive the elements in a situation and process information methodically and analytically, while others perceive the whole and approach problem solving intuitively [31].

A major aspect of cognitive style is "information processing," which has been termed a way of viewing learning and teaching. Many models have been

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[5]See "Cognitive Styles and the Adult Learner," by Richard W. V. Cawley and others, Adult Education, Vol. 26, No. 2 (Winter 1976). Also interesting and relevant is Cawley's "Cognitive Style and the Teaching Learning Process." Paper presented at the annual Meeting of the American Educational Research Association, April, 1974. ED 097 356.

developed to clarify the concept--by such distinguished scholars as Bruner and Ausubel. Some models are broad gauged and deal with memory, transfer, and "processing ability." Other focus just on the perceiving and incorporating of new data. Teaching implications center on such stages as (1) prior to instruction (set, disposition, attention, instructions to learner, etc.); (2) during learning (e.g., the way material is presented and new knowledge related to existing knowledge); and (3) subsequent to instruction (the organization and reorganization of information as it is stored and recalled, the retrieval and use of information, along with transfer).

When the adult learner receives new knowledge he usually must relate it to and incorporate it into previously organized patterns of knowledge--a process that often involves unlearning. If he has a clear, stable, organized "cognitive structure" in subject area, the learning and retention of new meaningful material is enhanced. When this condition is present the learner need not read introductory material first nor proceed to the abstract by way of the concrete. He can learn in an abstract mode throughout. Concerning the importance of understanding where complex material is concerned, understanding has been shown to be prerequisite to remembering and learning [18;34].

Norman states that each learner has "strategies" (processes and routines) and "meta-strategies" for integrating new knowledge with old and that this has implications for helping him to learn:

> We must learn to characterize the strategies that are acquired by students. When a subject is engaged in a learning situation, he brings to bear not only his knowledge of the subject matter, but also his idea of the expectations of the situation. He has some overall concept of the situation he is in, he has a concept of the performance expected of him, and he has some idea of the appropriate operations he can perform. Finally he has to have some idea of the basic commands or operations available to solve the problems put before him [34, p. 29].

Also relevant here is the concept of learning set, which has been shown to be directly related to learning to learn [14;29]. The psychologist sees learning to learn as something that takes place concurrently with the learning of specific tasks. It takes place when a task is repeatedly performed (e.g., gains in the rate over time at which one can learn lists of words). It probably results from a "transfer of general methods of attack and technique of acquisition from one set to another" but may also result from learning to acquire the appropriate set.[6] Jerome Bruner speaks of achieving, with children, "massive appropriate transfer" by appropriate learning; to the degree that "learning proceeds properly under optimum conditions leads one to learn how to learn."[7]

What are some implications of learning style for learning and learning how to learn? The great emphasis on the individualizing of instruction obviously stems in part from the notion that learners differ in stylistic preferences and in modes of processing information. Adult basic education is perhaps the subfield of adult education in which the greatest push toward "individualizing" is taking place. "Streaming" is another implication. This involves an institution's providing several alternatives as to the basic teaching-learning approach to be used. Oakland (Michigan) County Community College has gained national attention by diagnosing "style" and then sending learners along several different paths, which include the traditional classroom and independent learning through programmed instruction.[8]

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[6]See John A. McGeoch, The Psychology of Human Learning (Longemans, Green, 1952).

[7]The Process of Education (Vintage, 1963), p. 6.

[8]See "Personalized Educational Programs," by Joseph Hill, Instructional Technology, Vol. 17, No. 2 (February 1972), pp. 10-15. Hill has been one of the leaders in the development of a technique known as "cognitive mapping."

Specific subject areas (or rather representatives of them) are asking what can be done to discover and foster the learner's ability to recognize how he best learns a particular subject or skill. Caylon has advocated helping the learner to understand his processes in learning music--helping him to perceive when his ability is limited (while not becoming discouraged), to understand that each of us has strengths and weaknesses in every skill, and to discover other "music related insights and skills" [10].

Also there is evidence that the adult's memory can be improved by training, and, there are reports of aiding the ability to recall through instruction in "relaxation."[9] And a video tape that is in part a resource for training teachers to improve the ABE student's memory and recall has been developed [46].

How is the adult educator or facilitator to determine the learner's preferred (and optimum) style? Suggested approaches include (1) talking with the learner, (2) observing what methods and approaches seem to motivate him, and (3) using such resources as "cognitive style mapping instruments" and "strategic disposition tests" [35;46].

Summary

Self-directed learning emphasizes the learner's maintaining a major share of responsibility for the planning and carrying out of learning activities. Many of the same factors have to be taken into account as with group learning (needs, goals, resources, procedures), but there are differences in the orientation to learning and the implications for learning how to learn.

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[9]See "Learning Time With a ???? System," by Edward Berle and others, Psychonomic Science, Vol. 16, No. 4 (1969), pp. 207-208.

The basic tool skills (reading, writing, and listening) are almost prerequisite. Learning from and through every day experience is relevant, as is the matter of learning style. Style can be understood in terms of learner preferences for (1) the amount of autonomy, (2) for the procedures to be used, (3) for the pace, place and timing of learning, and (4) for the sensory paths one best utilizes in learning. Research into cognitive processes is yielding important implications and applications for teachers and administrators.

Give a man a fish and he eats for a day. Teach him to fish and he eats for a lifetime.

Proverb

IV. TRAINING AND RESEARCH

Three Programming and Learning Modes

We have now considered learning how to learn and its program implications in two "modes"-- what can be termed the individual mode (self-directed learning or learning on one's own) and the shared-membership mode (group learning). A third mode--the institutional--has only been mentioned in passing, because it has not received a great deal of attention from the adult educationists interested in learning how to learn, and apparently does not have as many implications for learning how to learn. The institutional mode is described as that (most prevalent) mode in which those responsible for operating an education program determine the curriculum and how it is to attain its expression. Much education in industry and government takes this form. With this approach, content and objectives, instructional procedures, and evaluative criteria are designed and controlled by the educating institution through its personnel.

Now the same program and learning "variables" obtain under each mode: objectives are set; authority is exercised; procedures are selected and utilized; evaluation is carried out; and learning conditions are activated. But these variables receive differing emphases and expression in the respective modes. For example, authority tends to be exercised either externally, or cooperatively, or individually in the institutional, shared-membership and individual modes respectively. Evaluation tends to be criterion-

referenced or in terms of group goals, or self-referenced in the three respective modes.

A central task and responsibility of the adult educationist, then, becomes to think clearly about the respective modes with their essential characteristics, their requirements, and their implications for helping people to learn. When the institutional mode is warranted it should be effectively and efficiently implemented. When the shared membership and individual modes are to be in operation, institutions should help learners acquire the required learning skill for optimum functioning. When this is done, training is involved.[1]

Training can be defined as organized activity for helping the adult to acquire knowledge and skill concerning learning--to increase his competence as a learner in the learning mode and context in which he finds himself. In Chapter I, ten major learner competencies useful in the planning, conducting, and evaluating of adult learning activities were identified, along with fourteen major insights and understandings that successful adult learners require. It was also pointed out there that learners will have special training needs arising out of life situations and out of the requirements or special properties of specific subject matter and procedures. Chapter II identified skills, knowledge, and attitudes appropriate for profiting from learning in and through groups. Among these are the skills of collaborative learning, knowledge about groups, and skills for preparation for and participation in learning in the classroom setting. Competencies needed for self-directed learning were described in Chapter III, together with the need for competency in basic tool skills and the idea of training people to learn from everyday experience. Under discussion in earlier chapters also were some of the training outcomes

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[1] See "Program Development and Curricular Authority," by Jack Blaney in Program Development in Education, edited by Blaney and Others (University of British Columbia Centre for Continuing Education, 1974).

and assumptions about training in laboratory learning and the Indiana Plan.

In this chapter we look at sources (actual and potential) of training, guidelines for developing training activities, and some of the research implications of learning how to learn.

Sources of Training

If one wishes to increase competency in the basic tool skills he has a variety of options available. Adult basic education programs exist in most communities. Rapid reading courses abound in both public and entrepreneurial settings. How to study courses are usually restricted to higher education institutions, but materials on the subject are not hard to find [11;22;47]. For those wishing to train adults to be more effective readers, Selma Herr has developed organized lessons [21]. Charlene Smith offers exercises to improve listening [38]. Herd describes a course for introducing adult students to study skills and materials. And a video tape aid for training teachers to help students improve recall has been produced [46].

At present, the person seeking increased competency in self-directed learning has pretty much to self-direct his or her training. A reading of Tough [43] will reveal much about the nature and importance of personal learning projects, including what research shows about how people go about planning and carrying out such activities. Tough also presents useful and creative ideas about training opportunities and convincing arguments that educational institutions should provide more training and assistance to people learning on their own. As we have seen, Knowles [26] has produced a resource containing a theory of self-directed learning together with tools and exercises for becoming more self-directed. These include aids for (1) developing skill in the asking of questions, (2) selecting methods when planning, (3) diagnosing needs, (4) assessing goal accomplishment, (5) "contracting" with self or others,

(6) determining the extent to which one possesses the necessary skills for self-directed learning, and (7) fostering inquiry, consultation, and collaboration skills.

For those who would design training activities about self-directed learning, Knowles offers brief descriptions of formats of varying length, including a two-day workshop and a three-hour orientation session. Beyond the training activities that Knowles is conducting the present writer is aware of only a twelve-hour module he himself has been including in a graduate adult education workshop on learning how to learn. Doubtless other comparable activities are being carried on, and they should become increasingly common as more resources appear and as trainers are developed. The importance of training for self-directed learning is underscored by research in England with children; only with "coached practice in self-direction... that broke their set for passive instruction" did it prove advantageous to allow young learners to exercise a high degree of autonomy in conducting learning activities [32, p. 85].

As concerns the need for more training and consultative help for self-directed learners, Tough calls for experimenting with the provision of planning help and speculates that large dividends might result for individuals, organizations, and society. His suggestions include consultative help within an organization for the person facing new responsibilities, help in setting learning goals for newly married couples, and any person in a community desiring help in setting life goals or learning objectives. He also mentions the possibility of providing "goal-setting consultants" for specific subject areas and "strategy consultants" who help the adults with processes involved in carrying out the learning projects they have planned. He calls for pilot programs to discover ways to help adults (1) make decisions about what to learn and

how to set effective personal learning goals, and (2) find ways to link up such activities with educational programs planning activities that institutions regularly provide [43, pp. 73-83].

Opportunities for training in how to learn from everyday experience are apparently non-existent. But the notion continues to be as intriguing as when it was entertained fifteen years ago by staff members of the Center for the Study of Liberal Education for Adults. We can perceive only the dimmest outlines of what such training might look like, but a more creative training design challenge is hard to envision. Non-credit university continuing education would seem to be a likely locus for experimenting with this kind of activity [30]. Some resources that might prove useful were cited in Chapter III.

Competencies for group learning are taught in higher education institutions in such graduate disciplines as psychology, social psychology, social work, counseling, and education, to name only a few. Colleges and universities also offer training opportunities through their continuing education arms. Most religious denominations, other voluntary agencies, the National Training Laboratories, and various entrepreneurs have skilled trainers available. Indiana University continues to hold residential participation training institutes through its Bureau of Studies in Adult Education and to publicize similar events held elsewhere. It is probably safe to say that there are at least a thousand persons in the nation experienced in or qualified to design training activities useful for improving skills in learning in groups.

Turning to resource materials for training about group learning, though the literature pertaining to adult learning in groups is considerable, with the exception of that cited in Chapter II, not a great deal of it was specifically designed for training purposes. There has been a considerable amount

written about "discussion" in the context of speech, communication, and youth education as well as adult education.[2] There are one or two films and filmstrips about listening. Much of the material about group processes developed through the Adult Education Association of the U.S.A. in the fifties and early sixties remains relevant though somewhat dated in format. The same holds true of the excellent series of group training films developed by Malcolm Knowles. And University Associates Press has produced a variety of training aids in recent years.[3]

Concerning training for community development, the Biddles suggest that the needed skills of collaboration can be learned through participation in the community development process itself. "Instruction in group dynamics and the like can speed the learning. But much instruction should be used with caution," to avoid disruption of the delicate relationships that usually exists between the outside consultant or facilitator and the local program participants.[4] When participants identify a need for specific training as a program unfolds (e.g. how to locate resources or write news releases), it can be arranged through sources like colleges and voluntary agencies. Many universities provided in depth training for volunteers and professionals in community development theory and methods; especially noted for this are Southern Illinois, Missouri, Wisconsin, and Washington.

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[2]See, for example, Joining Together: Group Theory and Group Skills, by D. W. & F. P. Johnson (Prentice Hall, 1975).

[3]See the many handbooks of Structured Experiences for Human Relations Training by J. W. Pfeiffer and J. E. Jones (Iowa City, Iowa).

[4]The Community Development Process (Holt, Rinehart, and Winston, 1965), p. 252.

Training Guidelines and Observations

Training activities are characteristically of three basic types. First is a module or unit conducted as the initial phase of a longer learning experience. The first session or two of a course that will utilize group discussion may be devoted to training the participants in discussion skills. Or a seminar to be based on student research and reports is begun with training in how to do the particular type of research in question and how to prepare and deliver an effective report. Second is the training activity (often combined with type 1) built in throughout a learning experience--as when each session of a course or workshop concludes with a critique concerning its strengths and weaknesses and consideration of possible ways for the participants to learn more effectively in the sessions still to be conducted. Finally there is the separate training event, one not tied into another learning experience. Examples would be an institute or workshop concerning the learning how to learn concept itself, a course in study skills, the participation training institute, and the training laboratory.

The question arises as to whether adults will react positively to the idea of learning how to learn. How will the person who is anxious to learn a subject or skill react to the idea of preparing to learn in a certain way--of "marking time" before the "real" learning gets under way? Experience shows that adults will accept the need for training if (1) they are convinced of its utility, (2) if the training has the possibility of a larger payoff (e.g., acquiring learning skills that can be used in other groups to which one belongs or in comparable situations one commonly encounters), and (3) the training is clearly related to learning problems trainees have previously encountered.

It was mentioned earlier that materials alone usually cannot carry the entire training burden where learning about learning is involved--at least

where developing competencies is the objective. A mixture of training activities and materials is called for. A moment's reflection will reveal that, in essence, training usually aims at developing a kind of "process" skill difficult to perfect by reading or through viewing. For example, one probably best learns how to develop a personal learning plan by so doing, by carrying out the plan and then receiving assistance in critiquing that plan and its results.

This suggests that the design of training activities is no simple task--that learning about learning has its complexities. One design problem arises out of the fact that learners are not used to the kind of functioning on two levels that is usually required. When a trainee is asked to practice a certain behavior--lead a discussion, plan and conduct a self-directed learning project, study a book instead of merely reading it--and then to step back and analyze what was done, he may find it hard to separate what he did from how or to think about the effects of what he did or didn't do. Training designers must therefore think clearly about choice of training exercises and the preparation of trainees for training experiences. They often must build in almost as much time for analysis or critique--for drawing out and helping trainees internalize the learning about learning implications of an activity--as for conducting the activity itself. And when they conduct training activities, trainers need the discipline to avoid being "seduced by content," since processes are usually what they are teaching. Miller [30, p. 235] describes this phenomenon in connection with training about learning from experience and Bergevin and McKinley warn the participation trainer against becoming fascinated by or over involved in the content of the discussion [3].

Since learners (trainees) usually experience initial difficulty in functioning on more than one level of experience, it becomes especially important

when designing training activities to avoid the temptation to "kill two birds with one stone"--to build extra impact into an exercise by providing for such activity as group discussion about the characteristics of a good discussion topic, or planning a program about "program planning." As another example, Knowles makes his sample learning contract one which deals with understanding the concept of self-directed learning [26, p. 62]. When this temptation is not avoided, the trainer is in effect forcing the trainee to try to cope with three levels of experience--an action that usually results in considerable confusion for those involved.

One trusted axiom of adult education is best forgotten in designing training activities: "Always involve the participant or learner in the planning." Training design is the exception to this rule. The potential trainee usually possesses very little to contribute to training design despite the fact that he will almost always be able to make significant contributions to educational design. Training design is sufficiently complex--involving learning about learning--as to preclude much useful input from the trainee. The trainee can provide useful feedback as to the effectiveness of the training, to be sure; and when training is conducted he can make useful input--as when, for example, he is given opportunity to identify characteristics of his own learning style.

It almost goes without saying that the most effective training will be that which is rooted in research. Research need not be experimental, however. Action or developmental research can be quite effective. The continued relevance of laboratory and participation training undoubtedly derives from the solid research base of these approaches to learning how to learn in groups. For example, initiating, observing, and analyzing many groups in the field enables Bergevin and McKinley to predict accurately how long it takes a

collection of individuals to become a learning team (and warn trainers against "short-cutting") or to outline the pitfalls to avoid in using a particular planning procedure [3]. A central task now confronting adult educationists is to conduct the research that will yield equally viable training designs pertaining to self-directed learning and learning style, the learning of tool and basic inquiry skills, and learning from experience.

Research based or not, training should be so designed as to approximate as closely as possible the conditions under which that being learned (about learning) will be put to use. This means that role play and simulation are often utilized. It also means emphasis on doing--e.g., developing planning skills by planning something and skills for conducting learning activities by conducting them in a practice environment. There must also be included provision for gaining insight into any differences between the simulated conditions just experienced and the anticipated situations to be encountered "back home" or when and wherever the skills or understandings are to be used in the future. Developing realistic plans and images of future use are essential to the transfer of training [15].

Another thing to be kept in mind by trainers and potential trainers is the need to expect resistance, if not hostility. People do not necessarily like to have their inability to listen, their poor study habits, their dogmatism, or their group leadership deficiencies brought to the fore. One does not change a basic orientation to learning without some conflict or antagonism that is most likely to be directed against the nearest available target, the trainer.

Finally, a word about the training of trainers is in order. Perhaps the development of trainers is a preferable expression. For experience has shown that there is no royal road to producing trainers. The task is best

understood as a process, since training of trainer courses have not proven very productive. The process usually involves the following stages: (1) the person first experiences the activity in question (e.g., how to lead a discussion or work out a learning contract) in a training situation; (2) he then gains further experience with the activity; (3) he then serves as assistant or helping trainer in a training situation; (4) he then conducts training activities on his own. Evaluation and certification as a trainer may or may not be interposed between steps three and four--as has been done, for example, by the National Training Laboratories and Indiana University in laboratory and participation training, respectively.

Differentiating Training Needs

These observations have been made with training of the learner in mind. It is also useful to ask what special knowledge and competency might be required by those involved in other roles. What are some training needs of administrators and teachers? To be sure, since they are, hopefully, learners themselves, administrators and teachers will require the same basic competencies set forth for a learner: skill in planning, conducting and evaluating group and self-directed learning activities (as well as basic learning tool skills). But what additional knowledge and skills should be provided them by those who carry out pre-service and in-service training for persons in these roles?

Administrators need to be helped to understand the programatic implications of the learning how to learn concept--that learning how to learn activities should be built into their programs--by coordinators, teachers, and programmers. They need to see that orientation activities for new participants in programs make ample provision for learning about learning. They need to hold before their staff members the goal of helping people become more

effective learners. They need to ask for hard evidence of progress toward this laudable goal. And they need to take seriously the challenge to devote less time to the development of "content" activities and more to "process" activities that will enable people to be more effective as learners. The administrator who acts on the implications of this important concept will look at materials, curricula, and performance of teachers and aides, learning outcomes, and program evaluation in new ways. The training task for professors of adult education and others in similar roles obviously then becomes the development of materials and activities that will help bring about such a re-orientation or adjustment in priorities of the adult and continuing education administrator.

Administrators and staff members who seek evidence of learner progress in learning how to learn will inevitably be confronted with stating behavioral objectives pertaining to such attainment. Tough has modeled some objectives for institutions desiring to improve performance in self-directed learning and equip people for learning on their own:

1. As a result of his experiences in this educational institution, the student will tend to initiate a learning project when facing a major problem or task, and when experiencing strong puzzlement or curiosity. He will use learning as one step in achieving certain action goals in his home and family, in his leisure activities, and on the job.

2. The student will realize that learning projects are common, natural and useful. He will be aware that people learn for a variety of reasons, that most learning is not for credit, and that each type of planner is appropriate in certain circumstances. He will not regard any reason for learning, or any type of planner, as strange or inferior. He will not believe that learning with a professional teacher in an educational institution is the only way to learn, and will not feel guilty when he chooses other formats for learning.

3. The student will become much more competent at discovering and setting his personal life goals and learning goals, at choosing the planner for his learning project, at conducting

> his own self-planned projects, at defining the desired help and getting it from a person or group, at learning from nonhuman resources, and at evaluating his progress and efficiency in a learning project [43, p. 149].

Teachers, aides, and counselors will be in direct contact with the learner. The counselor needs to be aware that lack of learning skills may be responsible for the adult's failure to profit from instruction or to get the satisfaction necessary to prevent his dropping out. The teacher and aide need to be able to help diagnose the individual learning problems and styles of the adult learner. The teacher needs awareness of the implications of using approaches and methods for which learners haven't been prepared: the futility of lecturing to those who don't listen well; the unfairness of evaluating students on reports without describing or modeling a good report; the inappropriateness of employing discussion without providing students with guidelines for productive discussion or of relying on home study for persons lacking study skills.

Having helped adults to diagnose learning problems, the teacher must then become as skilled as possible in assisting in the overcoming or coping with those problems. If learning disabilities are involved, professional help will usually be needed. If skills in discussion or problem solving are needed, the teacher may either attempt to provide them or utilize outside help. If the learner says, "I have no place to study at home," the teacher or counselor may help him to discover that the potential for such a resource exists by talking over his home situation with him. Teachers can develop training skills--skills for helping learners learn more effectively. In time they can come to regard training as a truly creative teaching task--one as important and rewarding as helping people learn the skills or subject matter of the teacher's specialty.

Some Research Implications

In a provocative article in Adult Education, Jack Mezirow calls for adult education research carried out by persons who involve themselves intimately in the situations they study and focus on the useful and practical aspects of "crucial" central hypotheses.[5] It would seem that research by adult educationists concerning learning how to learn is made to order for Mezirow's guidelines. Those who do experimentation and theory building about learning how to learn do not necessarily need to do basic research. They can also apply findings and implications from research done by (for example) psychologists, communications experts, and reading specialists to adult education situations in order to solve everyday teaching, learning, and administrative problems with learning how to learn dimensions. When Bergevin and McKinley developed participation training they did not first do basic research in group dynamics. They applied group dynamics theory and technology and some principles about learning conditions from the literature of adult education to several dozen local group learning programs which they had initiated and then observed. From this emerged new theory and methodology packaged in a useful system that could be transmitted to others at the operational level. Similarly, adult educationists can now take new knowledge about self-directed learning and learning style and apply it to local programs to find improved ways of orienting new students, devising multi-streamed curricula, and training adults to cope with personal learning problems.

Burton Kreitlow, who has consistently concerned himself with needed research in adult education, offers the following questions for consideration:

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[5]See "Toward a Theory of Practice," Vol. 21, No. 3 (Spring 1971).

1. What is the nature of the learning to learn concept?

2. Does learning to learn follow a different development pattern in youth than in adulthood?

3. To what extent has the high school or college graduate learned to learn?

4. What methods and techniques of instruction interfere with the learning to learn concept?

5. What are the conditions under which one learns to learn?

6. What "educational ingredients" encourage learning to learn in adults? [28]

All but the fourth seem to this writer to be promising lines of inquiry.

Concerning collaborative or group learning, there would seem to be need for developmental research about activities useful for training classroom teachers how to help students overcome anxiety. Students need efficient training activities concerning "how to use a teacher"--how to profit from a lecture and how to give feedback to teachers. Ways to encourage the formation of autonomous groups (and ways to help such groups plan and conduct their learning) are needed [43, p. 146].

Speaking of participation training conducted in an institute or workshop setting, McKinley cites the need for studies:

1. To determine the relationship between the congruency of participants' values and the extent to which the training group members develop collaborative skills of group effectiveness

2. To determine the extent to which the development of trust and group cohesion in the training group (a) frees participants to express their unique selves, and (b) fosters conforming behaviors at the expense of individual integrity

3. To determine the extent to which the development of trust and group cohesion are related to cognitive styles of participants

4. To determine the extent to which cognitive styles of participants are related to the willingness and ability of the participants (a) to internalize the norms of PT, and (b) to apply PT concepts and procedures in back-home situations

5. To determine the extent to which different "styles" of trainer-intervention affect (a) the development of participants' collaborative group skills, (b) the participants' frustration levels in critical sessions during the institute, (c) the participants' expressed satisfaction at the conclusion of the training program, and (d) the participants' willingness and ability to apply the concepts and procedures in back-home situations.

6. To (a) develop structured ways of making individual feedback available in the training program to those who desire it without threatening unduly those who do not desire it, and (b) determine the extent to which individual feedback affects the participants' willingness and ability to apply the concepts and procedures in back-home situations

7. To determine the extent to which participants' orientations to authority and intimacy tend to affect the training group's ability (a) to achieve tasks (e.g., make decisions by consensus) and (b) to exercise the group maintenance function

To determine whether collaborative skills and the ...ing of collaborative activities are learned most ...ffectively (a) by groups of persons who have been ...rsonally unacquainted, or (b) by groups of persons ...o are acquainted and have worked together.[6]

...ferences to cognitive style in two of these items (numbers 3 and 4) ...ore the need for some of the future research on learning how to ... to deal with the interrelationships of the major components of the concept itself (e.g., group learning versus self-directed learning).

Additional topics suggest themselves:

1. How can training for successful group learning be best combined with training for learning on one's own?

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[6]See "Participation Training: A System for Adult Education," Viewpoints Vol. 51, No. 4 (July 1975).

2. What are the implications of encouraging learners to adapt a particular learning style? (Should not adult education agencies accept responsibility for fostering the development of competency in collaborative learning as well as independent learning?)

3. How can adults be efficiently exposed to alternate styles and helped to better understand themselves as learners? What amount of preferences are attributable to lack of experience or exposure to alternatives?

4. What obstacles arise and need to be overcome when changing from one style to another?

5. What are the most viable components of style to utilize in training adults to understand themselves as learners--methodological preferences, the need for authority-autonomy dichotomy, tendencies in information processing?

6. What are the most important concepts and skills to build into training activities for administrators, teachers and learners respectively? And, what differentiations need be made for training ABE learners, continuing professional education participants, and the participants in leisure type learning activities?

7. How can the skills of visual literacy be best developed in the learner?[7]

Concerning cognitive style, Richard Cawley has called for research about the following:

1. Does cognitive style remain stable over time with adult population?

2. What is the relationship between life style and cognitive style?

3. Does a significant change in life situation result in change in cognitive style? (How would returning to full time study affect cognitive functioning?)

4. How does the setting in which one learns affect cognitive style?

5. What are the applications of research with pre-adults concerning the "analytic" versus the "relational" cognitive styles?[8]

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[7]See "Technology and Media for Lifelong Learning," by John Niemi in Journal of Research and Development in Education, Vol. 7, No. 4 (Summer 1974).

[8]See "Cognitive Styles and the Adult Learner," Adult Education, Vol.26, No. 2 (Winter 1976).

Tough has identified needed research concerning the carrying out of personal learning projects. The initial decision making processes the adult undergoes when undertaking a project, the processes of "help seeking" in planning and conducting projects, and means of improving goal-setting on one's own require further investigation. The process by which one chooses a planner and ways to increase learner competency in the choice can be studied. Also needed are research about (1) resources in self-planned learning projects --kinds, effective use, influences on choice, how learners perceive resources, tools for learners to use in resource selection; (2) the situation in which help is usually received ("How much time does the typical learner spend alone with no resource? To what extent does he receive his human help in a one-to-one situation, in a small group, in a large group, through a third person, by mail, and by telephone? Within what context, program or institution...are certain of the resources located?"); and (3) institutional experimentation with consultative and group help for self-planned learning. All of these can be researched with special emphasis on such particular field or subject areas as human relations, the professions, parent education, reform and rehabilitation, social work, counseling, and higher education [43: pp. 75, 84, 99, 102, 156].

Finally it might be useful to conduct historical research concerning learning how to learn. Perhaps a relationship can be established between successful adult education projects or programs and the successful accommodation to learning how to learn requirements by project and program leaders. Did some discussion centered programs fail because of insufficient provision for the development of discussion skills? Did some community development projects quickly burn out due to lack of provision for process skills? Did helping people learn how to learn contribute to the success of Cooperative

Extension, The Highlander Folk School, the Canadian Farm Forum, The Open University, the Danish Folk School, Pole's adult schools, the Botswana brigades, the Montana Project, the lyceum and Chautauqua?

Seen in its broad dimension then, learning how to learn offers almost unlimited potential for experimentation and research on the part of professional researchers and practitioner-researchers. To carry out the most useful activities with the limited resources will require collaboration among funding sources, graduate faculty, and program administrators. One or more conferences about researching the learning how to learn concept almost surely would prove of considerable benefit.

Summary

Each of three programming and learning modes--institutional, shared-membership, and individual--has its learning how to learn requirements. There is need for improved resources and procedures for training people to learn more successfully and act on the implications of the learning how to learn concept. Administrators, teachers and participants, among others, can benefit from training. The design of training activities presents special problems and challenges, most of which derive from the complexity of learning about learning. The learning how to learn concept offers especially rich possibilities for action and developmental research by adult educationists. Research is needed concerning group learning, self-directed learning, learning style, and their interrelationships.

Some of the documents in the following annotated bibliography are no longer in print. For these documents, an "ED" number has been included. The documents can be found in libraries subscribing to ERIC Microfiche collection or can be obtained in microfiche or hard copy reproductions from the ERIC Document Reproduction Service (EDRS). Please follow these instructions when ordering:

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V. ANNOTATED BIBLIOGRAPHY

1. Alabama University. Gift (Good Ideas for Teaching): Reading. Tuscaloosa: Alabama University, 1972. 96 pp. ED 083 453

This handbook provides guidelines, procedures, and techniques for teaching basic reading to adults. The chapters outline the scope and sequence of an adult basic education course, characteristics of the adult learner, terminology, and ABE assessment instruments, vocabulary, comprehension, study skills, and materials. Included are many diagrams and exercises together with a bibliography.

2. Berger, Allen. "A Guide for Developing Reading and Learning Skills of High School, College and Adult Students." Journal of the Reading Specialist, Vol. 8, No. 4 (May 1969), pp. 157-68.

Describes a course (from which the author "received encouraging responses from students") to increase reading and learning skills. Course includes discussion, instructor-student conferences, testing, critical reading exercises, rapid reading instruction, readings about study skills, group counseling regarding personal obstacles to learning, and clues for taking exams. Includes extensive bibliography.

3. Bergevin, Paul and John McKinley. Adult Education for the Church: The Indiana Plan. St. Louis: Bethany Press, 1971. 160 pp.

An identical version of this book (1970) is in the ERIC system (ED 143 846) under the title, "The Indiana Plan: A Revision and Abridgement of Design for Adult Education in the Church." Design for Adult Education in the Church first appeared in 1958 (Seabury Press); it contained a widely used, research-based system (the Indiana Plan) for planning, conducting and evaluating group learning activities for adults in religious settings. A learning-to-learn orientation pervades both the original and the briefer

updated version. The latter includes an annotated bibliography of thirty-five publications concerning the Indiana Plan.

4. Bergevin, Paul and John McKinley. Participation Training for Adult Education. St. Louis: Bethany Press, 1965. 108 pp.

A research-based manual for trainers and group members undergoing participation training -- a means of learning how to learn in groups. Utilizing small group discussions as a vehicle, members practice with various roles, structures, and processes designed to improve their skills in communication, need identification, collaborative planning, and evaluation.

5. Borowsky, George and Others. Yellow Pages of Learning Resources. Resources Directory Area Code 800. Cambridge: Massachusetts Institute of Technology Press, 1972. 94 pp. ED 064 806

This book is concerned with the potential of the city as a place for learning. Discovery of the city is facilitated by a catalog of seventy alphabetically arranged categories made up of (1) people (twenty-eight entries, ranging from butcher to psychologist); (2) places (twenty-nine entries, from city hall to zoo); and (3) processes (thirteen entries, from candymaking to weather forecasting). For each entry there are some descriptive statements, suggestions about utilizing the resource, a series of questions, and (sometimes) a personal report. The design of the book imitates the yellow pages of a telephone directory.

6. Bradford, Leland P. and Others, Eds: T-Group Theory and Laboratory Method. New York: John Wiley & Sons, 1964.

The authoritative book of the "group dynamics movement." Summarizes the state of small group learning theory and practice seventeen years after the first training laboratory was held. Calls learning how to learn "a first goal" of laboratory learning.

7. Carlson, Robert A. Conceptual Learning: From Mollusks to Adult Education. Syracuse: Syracuse University Library of Continuing Education, 1973. 40 pp. ED 070 956

A brief analysis of conceptual learning in education and adult education and some philosophical implications for the practitioner are presented. Traces the intellectual and political growth of "conceptual learning movement." Lists recent seminal studies in the field and presents a series of relatively non-technical interpretations. Analysis of the literature is concerned primarily with the more basic question of whether the adult educator should attempt to incorporate conceptual learning into his practice. Might serve as a starting point for considering the special factors involved in helping the adult learn to learn concepts.

8. Casteneda, Carlos. The Teachings of Don Juan: A Yaqui Way of Knowledge. New York: Ballantine, 1968. 276 pp.

An anthropologist's account of his experience with hallucinatory drugs among American Indians of the Southwest. Describes a discipline that can lead to becoming "a man of knowledge." Emphasizes the need to overcome fear in learning certain kinds of things. A powerful and unusual essay on learning and learning to learn as perceived in an alien culture. See also Casteneda's A Separate Reality (Touchstone, 1972).

9. Catford, J.C. "Learning a Language in the Field: Problems of Linguistic Relativity." Ann Arbor: Michigan University, Center for Research on Language and Language Behavior, 1969. 15 pp. ED 028 438

The author feels that there is no reason to suppose thatadults are less capable th children of learning a second language, given adequate opportunity and motivation. In terms of amount learned in comparable time, the adult is about five times as efficient as the child. Two types of differences between languages are discussed -- differences in the surface representation of quasi-universal "deep" features, and

differences in the "deep" conceptualizations of general human experience (the latter constituting "linguistic relativity"). Linguistic relativity, while a problem for the adult learner, is also a source of interest motivation for the mature student. The learner should be encouraged to develop initiative, curiosity, empathy, and an awareness of what to look for in the new language.

10. Caylor, Florence. "Learning is Learning to Learn How to Learn," 1973. 18 pp. ED 099 109

Advocates applying contemporary findings from psychology and related fields to the learning of music. Proposes objectives and guidelines for the music educator's use in helping people learn how to develop music related learning skills and insights. (Not focused on the adult learner.)

11. Cohen, Ruth and Others. Quest: An Academic Skills Program. New York: Harcourt Brace, 1974. 293 pp.

A self instructional book that uses the technique of analytic questioning to teach skills improvement in reading, listening, note taking, composition, exam preparation, and "self-management." The latter involves determining performance goals, selecting study activities, measuring progress, and maintaining skills. Aimed at secondary and college students.

12. Collican, Patricia M. "Self-Planned Learning: Implications for the Future of Adult Education." Technical Report No. 74-507. Syracuse: Syracuse University Educational Policy Research Center, 1974. 29 pp. ED 095 254

One of the most important implications for professional adult educators drawn from this review of the literature (emphasizing seven research studies which focus on the individual learner) stems from the increasing evidence that adults plan a great deal of learning for themselves without any assistance or intervention from professional adult educators. The studies indicate that an adult's learning project is a specific, personal, and individualized effort. Learners perceived that group learning did

not fulfill personal goals. The need for reliable subject matter resources for self-planned learning projects challenges the adult educator to increase the diversification in "packaging" subject matter (e.g., tapes, cassettes, single topic newsletters, television) for individual learning projects.

13. Dannemaier, William D. "Residual Gain in Learning as a Correlate of Degree and Direction of Effort in Formal Adult Education Programs." St. Louis: Washington University Graduate Institute of Education, 1963. 109 pp. ED 019 579

An investigation of the relationship between two types of study behavior and three kinds of learning -- knowledge, comprehension, and application. Part-time adult students in each of two first semester psychology classes at Washington University were tested, each class being treated as a separate study. Two study behavior scales were developed by homogeneity analysis, behavior one reflecting demonstrated acceptance of the established course content and goals, and behavior two reflecting the tendency of students to develop their own goals and content. Study behavior one was an effective predictor of gain in knowledge, and there was evidence of a positive relationship to gain in comprehension and application. Study behavior two did not appear related to gain in knowledge or in comprehension, but there was evidence suggesting a relationship to gain in application.

14. Dansereau, D. F. and Others. Learning Strategy Training Program: Questions and Answers for Effective Learning. Air Force Human Resources Laboratory. AFHRL-TR-75-48. June, 1975. 203 pp. ED 112 894

Describes an "integrated learning strategy program" to improve student performance with regard to comprehension, retention, and retrieval of written material and how to cope with distractions during these processes. Reports success in training the normal learner to improve recall. Includes a short bibliography of related studies and training programs.

15. Erickson, D. H. and M. M. Nichols, Eds. "Learning How to Learn." WICHE -- Mountain States Regional Medical Program, 3100 Henderson Drive, Cheyenne, Wyoming, 1970. 117 pp. ED 120 526

Describes a three-day seminar for persons responsible for continuing education in health professions--including nurses, physicians, dentists, administrators, and technicians. Participants received theory about adult learning and program planning, then practiced planning in small groups. Includes several instruments for training in planning skills along with the test administered before and after the seminar.

16. Gordon, George K. "Human Relations -- Sensitivity Training," in Robert M. Smith, and Others, Eds., Handbook of Adult Education. New York: MacMillan, 1970, pp. 425-38.

Explains the rationale, purposes and methods of what is sometimes called the group dynamics approach. Says human relations training programs usually share these characteristics: focus on learning about self and relationships with others; focus on the personal experience of the learners themselves; learners become collaborative investigators who accept increasing responsibility for directing their own learning. Includes a bibliography.

17. Griffith, William S. and Ann P. Hayes, Eds. Adult Basic Education: The State of the Art. Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, GPO 820-473, 1970. 255 pp. ED 051 475

Developed specifically for a workshop to increase and to improve university teacher training programs in adult basic education (held at the University of Chicago in 1969). The twenty-four chapters, which serve as a benchmark of research immediately relevant to adult basic education, have been arranged in eight major categories: teacher training, adult students, testing adults, curriculum development and materials, economic considerations, programs, culture or social stratification, and

overviews of adult basic education: research and programs. Material on learning set (p. 58 ff.) and cognitive style is directly related to learning how to learn.

18. Grotelueschen, Arden D. "Influence of Cognitive and Affective Factors on Adult Learning: Three Experimental Studies." Urbana: Illinois University Center for Instructional Research and Curriculum Evaluation, 1972. 77 pp. ED 092 800

After a review of the literature, the document describes three experiments: Experiment One was to ascertain the effects of prior relevant subject matter knowledge, differentially structured introductory learning materials, and differentially sequenced learning tasks on learning acquisition and transfer. Experiment Two sought to determine the extent to which self-regard and learning performance are influenced by the type and extent of feedback received during stages of a mathematical learning activity. The purpose of Experiment Three was to find the effects of presenting sets of introductory mathematical learning materials which are differentially structured with respect to a concrete-abstract dimension. The effects of the adult learner's subject matter background and sex on learning and transfer were also investigated. Subjects with little prior knowledge benefited most from materials structured to progress from concrete to abstract information. For those with high levels of prior knowledge the reverse was true.

19. Hancock, Alan. Planning for ITV. A Handbook of Instructional Television. New York: Humanities Press, Inc., 1971. 236 pp. ED 071 383

A manual and guide for practitioners of educational television. The principles of educational television are described along with a variety of applications. Methods of utilization and evaluation are provided, with full treatment of problems in staffing, recruiting, and training.

Suggests that much more needs to be learned about the process of teaching and learning by television.

20. Herd. David. "The Means of Expression." Adult Education (London), Vol. 45, No.3 (September 1972), pp. 150-53.

Describes a twenty-hour course designed to introduce prospective adult students to study skills and materials.

21. Herr, Selma E. Effective Reading for Adults. Dubuque, Iowa: William C. Brown Co., 1966. 234 pp. ED 022 119

After a consideration of the causes of ineffective reading, this publication presents organized lessons (including fifty reading selections) for improving adult reading skills together with specific suggestions for securing the main idea, developing word power, developing such skills as skimming, following directions, visualization, and improving the physical aspects of reading. A final reading test, progress record forms, and keys for exercises are included.

22. Houle, Cyril O. Continuing Your Education. New York: McGraw-Hill, 1964. 183 pp.

A relaxed, readable book to help the adult learner increase his ability to plan a personal program of study, to read intelligently, write clearly and effectively, concentrate, remember, and master a skill. Contains prescriptions for adults enrolled in organized courses, including the taking of examinations and participating in discussion. Includes suggestions for developing a lifetime learning plan and resources to use.

23. Humphrey, F. Charles. "A Study of Adults' Preferences for Control of Molar Learning Activities." Paper presented at the Adult Education Research Conference, Chicago, Illinois, April, 1974. 24 pp. ED 094 103

A research design was developed to investigate if adults participating in noncredit courses have different preferences for control in class learning activities. It was concluded that different adults do have

different attitudes toward control of molar learning in non-credit courses. The subjects showed more positive attitudes toward control of courses dealing with issues than of courses teaching skills and were more desirous of exerting control over general goals and "direction setting" than over the other aspects of planning and evaluation. Findings have implications for assisting adults to take responsibility for the teaching-learning transaction.

24. Jensen, Glen. "Education for Self-Fulfillment." Chapter 31 in Handbook of Adult Education. Robert M. Smith and Others, Eds. New York: Macmillan, 1970.

A professor of adult education advocates regarding learning how to learn as important and suggests that teaching adults how to learn be objective for the teacher.

25. Knowles, Malcolm. The Modern Practice of Adult Education. New York. Association Press, 1970. 384 pp.

A comprehensive, authoritative work about the administration, design, conduct, and evaluation of adult education activities. Contains references to the idea of learning how to learn and an orientation compatible with it. Stresses the importance of helping adults to become maximally responsible for the teaching-learning transaction. In The Adult Learner: A Neglected Species (Gulf Publishing Co., 1973), Knowles suggests building "learning-how-to-learn" orientation activities into adult education programs that emphasize self-directed learning or learner responsibility for the activities involved. He includes an example of how to do this.

26. Knowles, Malcolm. Self-Directed Learning. New York: Association Press, 1975. 135 pp.

Teachers can use this manual "as a resource for designing strategies for helping their students learn how to take more responsibility for their

own learning." It was also written to help the adult move toward increased competence as a self-directed inquirer. It provides a rationale for self-directed learning together with a variety of procedures and tools for both teachers and students. Includes guidelines for "contract learning."

27. Knox, Alan B. "Life Long Self-Directed Education," 1973. 110 pp. ED 074 346

A rationale is presented (with examples of an approach) for professionals in the health sciences becoming more self-directed in the ways in which they continue education throughout their careers. The objectives of the presentation are: (1) to understand the functioning of the "mentor role" as it is used to guide self-directed education of health professionals; (2) to better understand a variety of effective strategies by which professionals in the health sciences can alternate between action problems and knowledge resources; (3) to recognize the way in which self-directed education fits into the broader context of continuing professional education; (4) to recognize that self-directedness in learning is a continuum which can be used by professionals to discover ways in which learning effectiveness can be improved; and (5) to appreciate the ways in which the proposed approach to life-long self-directed education can be used. Includes guidelines for facilitation of self-directed education.

28. Kreitlow Burton. Educating the Adult Educator: Taxonomy of Needed Research. Madison: University of Wisconsin Center for Cognitive Learning, Part II, 1968. 28 pp. ED 023 031

Concludes a list of important questions about adult learning that are in need of research with several regarding the concept of learning to learn, including, "What are the conditions under which one learns to learn," and "What educational ingredients encourage learning to learn in adults?"

29. Kuhlen, Raymond G. and Others. Learning and Cognitive Performance in Adults. Syracuse: Syracuse University, 1967. 106 pp. ED 015 413

This retrospective bibliography of over fifteen hundred items is largely devoted to various types of adult learning and cognitive behavior (conditioning, skill learning, discrimination, verbal learning, problem solving and complex behavior, memory, verbal behavior, and set), to studies on intelligence and test behavior (age changes, correlational and factor analytic research, vocabulary, biological intelligence, psychomotor tests, and populations with organic and functional disorders), and to the effects of aging on perception. Also represented are studies of reaction time, achievement and productivity, and education and industrial training, together with psychophysiological research, methodological problems in aging research, along with reviews of literature.

30. Miller, Harry. Teaching and Learning in Adult Education. New York: Macmillan, 1964. 340 pp.

A wide ranging book that includes a discussion of learning from experience--the need to maximize one's potential for doing so and the obstacles to learning from experience. Includes suggestions for training adults to learn from experience by reflection and by utilizing the resources which lie all about them in the community.

31. Monge, Rolf H. and Eric F. Gardner. "A Program of Research in Adult Differences in Cognitive Performance and Learning: Backgrounds for Adult Education and Vocational Retraining." Syracuse: Syracuse University Department of Psychology, 1972. 256 pp. ED 059 417

A five-year program of research in adult learning is described. Purposes included determining age differences in cognitive abilities, surveying the educational backgrounds and skills that older and younger adults bring to learning sitations, studying age differences in personality characteristics of a type likely to influence the individual's learning, and

investigating the interaction of the above variables with the age of the learner in determining learning and performance. Includes discussion of adult age differences in cognitive functioning, in educational background, learning orientation, and performance.

32. Moore, Michael G. "Learner Autonomy: The Second Dimension of Independent Learning." Convergence, Vol. 5, No. 2 (1972), pp. 76-78.

Report of a study on "distance teaching," where teaching and learning occur in separate places. Author feels the trend will be towards teaching students how to learn rather than specific subject matter. Entire issue has implications for helping adults learn to learn through correspondence and related methods.

33. Niemi, John A. "The Meaning of Lifelong Learning." Paper presented at the annual conference of the Northwest Adult Education Association, Oct. 12, 1972. 12 pp. ED 068 833

The concept of lifelong learning generally embraces both learning by chance and learning by design, and it has three dimensions--perpendicular, horizontal, and depth. Adult educators need to learn to use the media consistently and efficiently and help adults acquire the skills needed to embark on their own styles of lifelong learning. Says adult educators often erroneously assume that learners possess the necessary skills or tools with which to learn. Mentions "visual literacy" and the skills needed to profit from viewing films and television.

34. Norman, Donald A. "Cognitive Organization and Learning." La Jolla, Cal.: California University Center for Human Information Processing, 1973. 43 pp. ED 085 543

States that when one learns complex material, the important thing appears to be the ability to understand the material. Once understanding occurs, learning and remembering follow automatically. The conventional psychological literature says little about the processes involved in the

learning of complex material--material that takes weeks, months, and even years to be learned. This research oriented paper treats the nature of understanding, the types of hypotheses that subjects bring to bear on the learning process, and the types of processes that need further study in order to develop improved teaching-learning theory. Cites implications for assisting adults improve in learning that involves problem solving.

35. Pask, Gordon. "Strategic Disposition Tests and the Influence of Learning Strategy on the Performance and akdown of Skills." Springfield, Va.: National Technical Information Service (AD-752-634), 1972. 21 pp. ED 073 374

This Air Force sponsored effort was focused on projects to develop "strategic disposition tests" for determining individual competence and preferred learning style and to examine the relationships between individual competence and performance on a task under conditions of stress as a function of type of training.

36. Preising, Paul P. and Robert Frost. "Increasing Student Retention Through Application of Attitude Change Packages (and) Increasing GPA and Student Retention of Low Income Minority Community College Students Through Application of Nightenga' onant Change Packages." Paper presented at California Association Institutional Research, May, 1972. 17 pp. ED 076 188

The first of two experimental studies reported was conducted to determine whether thirty unemployed aerospace engineers who received computer science training as well as the Nightengale-Conant Attitude Change packages would have significantly higher course completion rates than control classes whose members did not receive the attitude change packages. Findings showed subjects benefitted from both the occupational training and the experience of learning to set personal goals. The second study applied Nightengale-Conant Attitude Change packages to twenty-four low-income, minority community college students with the effect that the grade point

averages and retention rates of these students were higher than the GPA and retention rates of a control group.

37. Rossman, Michael. On Learning and Social Change: Transcending the Totalitarian Classroom. New York: Random House, 1972. 384 pp.

About the games teachers and students play -- in higher education. Discusses the revolution of the sixties, free schools, free universities and the possibility of learning to learn from children. Advocates learning to become an autonomous learner.

38. Smith, Charlene W. "How's Your Listening?" Instructor, Vol. 84, No. 2 (October 1974), pp. 59-68.

Though focused on the education of children, this article could be adapted to teaching adults to improve their listening skills. Contains exercises pertaining to listening for: (1) details; (2) understanding the main idea; (3) making inferences and judgements; and (4) following directions, as well as listening in order to evaluate advertising, materials, and speakers' points of view.

39. Smith, Edwin H. "What the Adult Basic Education Student Should Learn While Learning to Read." Adult Leadership, Vol. 21, No. 7 (January 1973), pp. 227-28.

Reading, composition, speaking and listening are the basic skills of ABE -- the vehicles through which content is learned. Spells out the ABE levels at which these should be emphasized and gives practical suggestions for their introduction and for relating them to other content.

40. Smith, Robert M. "Some Uses of Participation Training." Adult Leadership, Vol. 18, No. 3 (September 1969), pp. 77-78.

Explains briefly the workings of this approach to helping people learn how to learn more effectively in small groups. Compares participation training with sensitivity and T-group training. Describes applications in the first phase of a longer course, open course programming, an urban

government training center, and secondary schools. Mentions the training of trainers. A much more comprehensive, but less readily available, treatment of participation training as a system is found in the (entire) July, 1975 issue of Viewpoints, the Bulletin of the School of Education at Indiana University (Vol. 51, No. 4), Leon McKenzie, editor.

41. Stern, Milton. "How to Use a Teacher." Pleasures in Learning. New York: New York University, Continuing Education Division (October 1958). 4 pp.

How to get the most from a continuing education course--especially a non-credit university level course. Encourages active listening, making the instructor aware of one's needs, and adjusting to his or her style and personality. Warns the reader that sheer hard work and drudgery may be required for certain kinds of learning.

42. Syracuse University. "Self Concept in Adult Participation. Conference Report and Bibliography." Syracuse: Syracuse University, ERIC Clearinghouse on Adult Education, 1969. 70 pp. ED 033 252

Three conference papers, together with abstracts, are presented on adult education participation and self-concept. Propositions regarding behavior and motivation are discussed in the context of a theory of self-concept. Curiosity, enjoyment of learning activities, and pleasure in acquiring and/or possessing knowledge are among the reasons stressed for involving oneself in learning. Also considered are the ways in which conflicting psychological needs, role transition, and the attitude or sense of powerlessness affect adult learning.

43. Tough, Allen. The Adult's Learning Projects. A Fresh Approach to Theory and Practice in Adult Learning. Toronto: The Ontario Institute for Studies in Education, 1971. 199 pp. ED 054 428

The why, how, and where of the adult's learning projects are encompassed in this major work. Central focus is on the adult's efforts to learn -- his decisions, preparations, reasons for learning, sources of help, problems

and needs. The fifteen chapters treat the following: highly deliberate efforts to learn; episodes and learning projects; whether learning projects are common and important; what people learn; why people learn; preparatory steps in deciding to proceed with a learning project; choosing the planner; how common and important each type of planner may be; self-planned learning; improving self-planned learning; when a nonhuman resource serves as planner; learning projects planned by a person is a one-to-one relationship; a group or its leader as planner; and practical implications for institutions and instructors. An extensive bibliography is included.

44. Warren, Virginia B. How Adults Can Learn More -- Faster: A Practical Handbook for Adult Students. Washington, D.C.: National Association for Public School Adult Education, 1966. 55 pp. ED 024 911

This handbook gives advice to the adult learner on such matters as effectively concentrating and listening, improving reading skills, responsibly taking part in group discussion, and the successful taking of tests. Also included is discussion of adult learning processes and efficient study habits. Concluding chapters deal with the use of community resources and television and give advice about how to continue learning every day.

45. Wentworth, Robert B. "How to Study A Correspondence Course." Boston: Massachusetts State Board of Education, 1967. 22 pp. ED 031 631

This guide to learning through correspondence presents suggestions for good study habits and techniques and for taking examinations. Discussion of how adults learn is followed by information on necessary equipment, memorization, reading improvement, use of the study guide, submitting lessons, and grading of lessons. The section on examinations deals with the preparation and writing of both essay and objective types.

46. "What is the Teacher-Student Role in ABE?" (30 minute color video tape). Maryland State Department of Education, 1975, tape No. 4.

One of thirty video tapes for in-service education of ABE teachers. Explains the many roles of "teacher" and the concept of learning style. Shows how the teacher can be a model of a good learner as well as help the student to develop self-confidence, improve recall and memory, and become active in defining personal goals. There is also some treatment of learning style in tape number 19.

47. Wilson, Robert R. "The Effects of Selected Programming-- Analog Techniques and Voice Contact on Completion Behavior in Correspondence Education." Ph.D. Thesis. University of Michigan, 1968. 195 pp. University Microfilms Order No. 69-2409.

How to study materials helped to increase the completion rate of persons enrolled in correspondence courses.

48. Zetterberg, Hans L. Museums and Adult Education. Paris: International Council of Museums, 6 Rue Franklin, 1969. 98 pp. ED 044 928

The problems and potentials of adult education in museums are set forth in this UNESCO sponsored book. Both the historical and contemporary services of museums are considered. Essays treat the interplay of scholarship and education and collection and education, factors affecting the scope of the educational program, the philosophy of active education, the unique aspects of adult education, the principles of progressive self-education and the written word, progression and circulation in exhibits, guides and teaching styles, scheduling, attracting adults, and gauging success. Includes a bibliography.

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