

DESIGNING LEARNING FOR ADULTS

In-Service Education Conference #76

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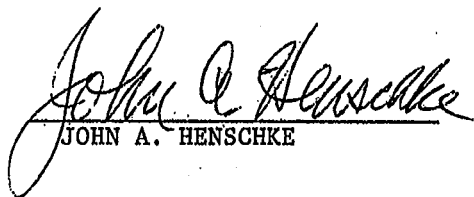
FORWARD

Preparation of these materials on the topics of How Adults Learn, Designing Adult Learning, and Techniques for Conducting Adult Learning, has been most challenging and rewarding. It has been a tremendous learning experience. Without question, the actual conference will be an extremely valuable learning experience.

We hope your participation and investment in this inservice education will prove beneficial to you.

Welcome to a shared learning experience!

FEBRUARY, 1989


JOHN A. HENSCHKE

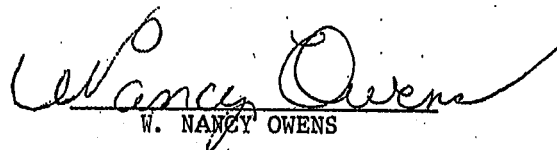

W. NANCY OWENS

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DESCRIPTION OF THE NEED

Conducting adult learning experiences requires both knowledge and skill in how adults learn. Competence in subject matter has traditionally served as a sufficient qualification for individuals who teach adults. Results of teachers having subject matter competence only has often led to participants dropping out of the program. Today's rapidly changing, technologically oriented society has created the necessity for teachers and trainers whose competence also reflects understanding and concern for the unique needs of the adult learner, whatever the subject matter. This program seeks to meet that need.

LEARNING OBJECTIVES

Participants will develop:

- Understanding of how adults learn;
- Skills for designing adult learning experiences; and,
- Skills in using various adult learning techniques for conducting their programs.

DESIGNING LEARNING FOR ADULTS
IN-SERVICE EDUCATION
CONFERENCE #76
February 20-24, 1989

CONFERENCE SCHEDULE

MONDAY, FEBRUARY 20, 1989

1:00 p.m.

I. Adult Learning Theory

1. Climate Setting for Adult Learning
2. Adult Learning Assumptions and Applications of Theory in Teaching Adults
3. Trainer Process Plan
4. The Adult Learning Cycle
5. Pedagogical/Andragogical Cycle
6. Experiential Learning

II. Learning Styles

1. Learning Style Inventory
2. Considering Learning Styles When Planning
3. Strengths and Weaknesses

5:00 p.m.

TUESDAY, FEBRUARY 21, 1989

8:30 a.m.

III. Learning Styles(continued)

1. Characteristics
2. Creative and Rational

IV. Training and Teaching Styles

1. What experiences and preferences
2. Training Type Inventory
3. An Overview

12:00 NOON

1:00 p.m.

V. Recap and Principles of Design

1. Recap Thus Far
2. Artistic Approach to Educational Design

3. Formats, Devices and Skills for Group Learning
4. Components of Learning Design
5. Examples of Lesson Plans
6. Major Categories of Design

5:00 p.m.

WEDNESDAY, FEBRUARY 22, 1989

8:30 a.m.

V. Principles of Design (continued)

1. Rating of Competencies for Designing Learning Experiences
2. Behavioral Description Process

12:00 NOON

1:00 p.m.

Recap Thus Far

VI. Methods and Techniques for Facilitating Adult Learning

1. Climate Setting for Learning
2. Using Small Groups in the Learning Process
3. Diagnosing Learning Needs

5:00 p.m.

THURSDAY, FEBRUARY 23, 1989

8:30 a.m.

VII. Simulations

1. Role Play
2. Critical Incident
3. Case Method
4. Problem Solving for Critical Thinking

12:00 NOON

1:00 p.m.

VIII. Large Meetings

1. Listening Teams
2. Fishbowl

3. Audience Participation

IX. Comprehensive Directions

1. Evaluations

Reaction
Learning
Behavior
Results

2. Using Learning Contracts

5:00 p.m.

FRIDAY, FEBRUARY 24, 1989

8:30 a.m.

X. Refining Learning Contracts

1. Recap of Overall

2. Preparing Contract for Achieving
Learning Objectives by April,
1989 Session3. Sharing of the Design Task and
Work Assignment4. Instruments for Use and How It's
Going to Work.

- UNTIL APRIL 10-12, 1989 -

MATERIALS & METHODS

**In Adult
and Continuing Education**

INTERNATIONAL — ILLITERACY

Editor

CHESTER KLEVINS

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Los Angeles



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Training Teachers of Adults

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The adult continuing education literature and popular belief suggest that competence in subject matter has traditionally served as a sufficient qualification for individuals who teach adults. For most educators and trainers in programs serving adults, neither adult teaching experience nor formal preparation for teaching the adult learner is a requirement for obtaining a position. Many of the institutions conducting adult education programs have no requirement for teachers other than knowledge of the content of the subject to be taught. It is assumed by many that if one knows the content or subject matter, competence in teaching it to other adults is automatically included in that knowing.

Results of this process of teacher assignment has often led to dropouts in a wide variety of programs. While it cannot be assumed that everything lacking in a learning experience points to the teacher, teacher performance obviously has some responsibility.

The number of adults involved in learning experiences of one kind or another has recently risen exponentially: currently, 23 million Americans — 10 million more than 15 years ago. It is also known that adults as consumers of education or learning have become increasingly sophisticated in their knowledge of what constitutes good teachers. Furthermore, adults are for the most part voluntary learners and will disappear if their needs as determined by themselves, are not met in that educational or training program. In addition, even those adults who are required by some boss or employer to remain for whatever reason, will have psychologically "checked out" of the learning experience if their perceived learning needs are not met. Today's rapidly changing, technologically oriented society has created a need for teachers and trainers whose outlook reflects understanding and concern for the unique needs of the adult learner.

Many institutions have not been willing to insist that a teacher must become equipped for teaching adults by participating in a systematic training program; nor have they provided the opportunity for those teachers who would become involved willingly. This chapter is designed primarily to assist the non-experienced teacher of adults and, also, will be useful to those who have some experience and training in the field.

There are five important building blocks of a systematic training program for non-experienced teachers of adults:

1. Beliefs and notions about adult learners.
2. Perceptions concerning qualities of effective teachers.
3. Phases and sequences of the learning process.
4. Teaching tips and learning techniques.
5. Implementing the prepared plan.

The best results will be attained by making improvements on each building block as it applies to a specific teaching situation. Each step taken will lead to some improvement. The more steps that are taken, the more improvement will result.

I. BELIEFS AND NOTIONS ABOUT ADULT LEARNERS

The first building block seems to be a reflective starting point for the teacher. Who is this learner we call an adult? Many definitions are in current usage. The following descriptors adapted from the works of Malcolm S. Knowles⁶ and Frank Hoffman⁵ would seem to characterize the notion of the adult as a learner.

First, the adult learner has a concept of self that has the potential and desire for increasing self-directiveness which is interdependent and not in isolation. This means that in the learning situation the adult:

1. Accepts and loves responsibility.
2. Orients toward the future.
3. Values initiative.
4. Opens to opportunities.
5. Solves problems
6. Is creative.
7. Ideology

The key for the teacher is to design programs to take advantage of the learner's potential and desire for increasing interdependent self-direction.

Second, as an adult learns, grows, and develops, he or she builds an increasing reservoir of experience. This experience becomes a vast resource to draw on for helping others to learn as well as advancing one's own learning. Thus, structuring the learning situation to take advantage of those resources should at least help to:

1. Create positive attitudes in the learner toward the instructor, one's self as a learner, the subject and learning situation, expectancy for success.
2. Relate the instruction to the learner's needs.
3. Increase stimulation of the learner's attention, awakesness, awareness, interest, involvement, and interaction.
4. Encourage, optimize and integrate learner emotion.
5. Achieve the learner's progress toward self-chosen goals.
6. Reinforce learner participation, positive changes and continuous learning.

II. PERCEPTIONS CONCERNING QUALITIES OF EFFECTIVE TEACHERS

The second building block focuses upon the teacher. It is self-diagnostic. What are qualities of effective teachers? How do I measure up? Where do I need improvement? How will I accomplish that improvement? From David W. Cochran¹ and many other sources comes an overall picture of the abilities and qualities teachers need to help assure satisfactory learning by the learners.

QUALITIES OF AN EFFECTIVE TEACHER

- 1. Interest in the Students and the Subject Being Studied.** Students are quick at determining how interested teachers are in them and the subject being taught. You can't have one to the exclusion of the other. Effective teachers demonstrate sincere concern and interest in their students' progress and well-being.
- 2. Ability to Communicate Well.** Communication is the act of helping others learn concepts, skills and attitudes. Teachers communicate by speaking, listening and writing. Communication includes presenting material in a clear and straightforward manner using language and written materials geared to learners' comprehension levels. Since learning is an active process, communication methods used must actively engage students.
- 3. Good Knowledge of the Subject.** Successful teachers and trainers have a thorough and comprehensive knowledge of the subject they are teaching. The expectation of students is that the teacher will be able to respond to their questions and help them develop their areas of interest. However, when challenged by a question, the teacher of adults needs to admit to not knowing the answer as well as expressing willingness to work with the student to find the answer.
- 3. Prepared to Teach the Lesson.** Good teaching and good planning go hand in hand. Planning requires an investment of time. It should be a joint venture done with students so that their needs are addressed. The basic ingredients of planning are establishing goals, selecting techniques and materials to achieve these goals, and evaluating to see if the goals have been met.
- 4. Enthusiastic.** Enthusiasm is catching. If one is deeply interested in a group of ideas, a set of facts, or a type of work, one is also more likely to get others interested. Enthusiasm is the natural celebration of the joy of learning a new bit of knowledge or a new skill. Students love enthusiastic teachers, and will as a result get "steamed up" about learning. It affords them the opportunity to explore new ideas and expand themselves in new directions with the support of a knowledgeable and exciting teacher.

Other qualities of an effective teacher would certainly include: **Desire to Instruct, A Sense of Humor, Being Flexible, Tact, Patience, Using a Variety of Teaching Techniques, Sensitivity and Courtesy.**

Using Figure 1, "map out" plans to make the improvements needed in your teaching practice.

III. PHASES AND SEQUENCES OF THE LEARNING PROCESS.

The third building block for equipping non-experienced teachers of adults is to focus on the various phases and sequential steps in the learning process. When learning is viewed as a learner merely absorbing a body of information, then teaching becomes the vehicle for "throwing" or "spraying" as much information as possible at the learner. However, when learning is understood as a process which has a number of manageable steps in which the learner becomes deeply involved, then teaching becomes the vehicle and road map for helping the

To What Extent, in my teaching, do I:						What Will I Do To Make the Improvements I Want?
Scale	0	1	2	3	4	
Show interest	Lo				Hi	
	0	1	2	3	4	
Communicate well	Lo				Hi	
	0	1	2	3	4	
Possess Knowledge	Lo				Hi	
	0	1	2	3	4	
Prepare Plans	Lo				Hi	
	0	1	2	3	4	
Exhibit Enthusiasm	Lo				Hi	
	0	1	2	3	4	
	Lo				Hi	

1. Place a "P" indicating present level on each item;
2. Place a "D" indicating desired level of performance on each item; and,
3. Develop a professional development plan on what you will do to move yourself from present level to desired level on each item. (List in space provided at right above.)

FIGURE 1

learner internalize, develop, practice, and refine proficiency in the application and use of that knowledge.

An interesting model which Cochran¹ has suggested is that the teacher keep the learners yearning, learning, earning, and returning. This means that the teacher needs to be a guide and:

1. Provide that for which the learner's **Yearn**, such as: new and advanced parts of the subject; developing a spirit of inquiry; another expert resource on the topic; reading and studying outside; being helped to find out answers to their questions.
2. Provide that which will help the learner's **Learn**, such as: incremental parts of the subject; using time well; classroom group involvement; being well prepared.
3. Provide that which will help the learners **Earn**.

Success
Praise

Confidence
Interest.

54

4. Provide that which will cause the learners to **Return**.
 For enthusiasm. For finding sincere teacher interest.
 For moving forward. For experiencing affirmation.
 For sharing their learnings and progress.

Another way to look at the *learning process* may be portrayed through an adaptation of Gene Custer.²

1. Determine the content to be included.
 Identify specific knowledge and skills to be taught.
 Know who will be in the program.
 Determine present level of performance.
 Establish objectives.
 Design performance test.
 Determine learning points.
2. Determine learning techniques to be used.
 Look at the task and the way results are achieved.
 Determine learner's orientation — visual, auditory/verbal or physical.
 Determine whether information is processed, learned, and applied, systematically or intuitively.
 Determine whether learner motivation is low or high.
 Select media and techniques.
 Determine how to use the media and techniques.
3. Organize and develop the training presentation.
 Organize and sequence content.
 Design and develop handouts.
 Develop plan for delivery.
4. Deliver the presentation.
 Practice and time your presentation.
 Do a pilot presentation.
 Evaluate outcomes.
 Save final materials for later use.

IV. TEACHING TIPS AND LEARNING TECHNIQUES.

The fourth building block for equipping non-experienced teachers is to make them aware that there are a multiplicity of teaching techniques and tips that will breathe life into a learning experience for participants. Some of the more familiar presentation techniques would be the lecture, reading, slides, audiocassette, motion picture, and demonstration. Certainly each of these approaches could be enhanced given a little thought. The **lecture** is the most frequently used technique for disseminating knowledge. It is a one-way organized communication of information by a resource person. To increase the interaction and enrich the internalizing of the information presented, **Listening groups** could be formed before the lecture. Their purpose would be to listen to the lecture for things: (1) they wish clarified, (2) they want to take issue with, (3) they want to have elaborated, and (4) problems of practical application. After the lecture each group gets together to develop their questions. Then the lecturer responds to each question raised. **Buzz groups** of four to six people could also be formed to discuss particular issues

or ideas raised in a lecture by a resource person. Lectures could also be accompanied by overhead visuals, flip charts, filmstrips or newsprint to help learners grasp the information.

A **motion picture** and **slides** present information to participants through the ear and eye. Its message and purpose can be advanced by discussing in small groups of four or five people the meaning, application, and use in various situations and then sharing insights with the larger group. Another approach would be for the teacher to prepare specific questions to be discussed in small groups following the film.

Assigned or suggested **reading** material that is essential to developing understanding of an idea must be accessible and at a reading level the learner is able to comprehend. It is unrealistic to expect that the material will be read outside of class. Hence, a crisp printed outline of the main ideas or a series of questions, for which this material may provide answers, could improve the process of learning.

Audiocassettes have the advantage of being able to be listened to many times for a lecture message. If one has a cassette player, time that is otherwise spent listening to the radio or just in silence could be used to listen. As with the reading material suggestions above, a copy of the outline or appropriate probing questions should be advantageous to the learner.

A **demonstration** has the instructor verbally explaining and performing step-by-step, an act, procedure or process. One caution is that the instructor should make sure the participants can see as well as hear all that goes on.

Other techniques are **group discussion** which would have ten to twenty people discussing a problem for a fifteen to twenty minute period. **Huddle groups** of two or three people could discuss for a few minutes an issue raised.

A **case study** brings a small group of people together to analyze and solve a problem or a case situation. A **simulation** has the learners acquire skills in a setting that simulates the real setting where skills are required. A **role play** becomes an impromptu dramatization of a problem or a situation, followed by discussion. A **teaching/learning team** is a group of three to six people working cooperatively to teach and help others develop knowledge and skills.

Many more techniques are available and explained in the expanding adult education literature. In designing a learning experience, a variety of techniques need to be included that will enhance the interest and excitement of the adult learners as well as improve their knowledge, skill and attitude.

A quick way to determine the usefulness of any techniques for use in one's teaching practice would be to use Figure 2.

V. IMPLEMENTING THE PREPARED PLAN

The fifth building block for equipping non-experienced teachers of adults is the final step of conducting a program.

This is a most crucial part of the process. It seems that this step cannot be directly taught. It is not readily articulated, openly expressed or stated. It is unspecifiable. It is what Dirk³ refers to as "The Tacit Dimension of Practical Knowledge"

QUESTIONS AND EXERCISES

- When you begin your next adult education class what procedures will you use to establish a climate of mutual respect, cooperation rather than competition, informality, supportiveness, warmth of relationship with you, etc.?
1. Prepare for your next adult learning program an outline of how you will:
 - Engage students in examining, clarifying, and influencing the objectives of the course.
 - Acquaint them with your plan of work for the course and their responsibilities in it.
 - Help them prepare to carry the responsibilities you expect of them.
 - Make them aware of the material and human resources available for accomplishing their objectives.
3. It has been suggested that ninety-five percent of the teacher's preparation for teaching a course should be devoted to the procedures and only five percent on the content of the course. Do you agree or disagree? Explain why you agree or disagree. Refer to Figure 3.

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4. Ellington, Julius E. The Winning Trainer, Instructor, Facilitator, Teacher, Conference Leader, Etc. Houston: Gulf Publishing Company, 1984. Winning trainers are not only "on the ball" they get it rolling. Winning instructors, facilitators, teachers get results in the form and groups with whom they work - greater retention, better on-the-job application, and increased learner interest. They also have this in common: They have mastered the use, and they know the importance, of participative learning techniques.
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6. Knowles, Malcolm S. The Modern Practice of Adult Education: From Pedagogy to Andragogy. New York: Cambridge Book Company, 1980-revised edition. A comprehensive volume of various practices and a coherent congruent theory, assumptions and processes undergirding the conduct and administration of adult learning.
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THE ASSUMPTIONS AND PROCESS ELEMENTS OF THE PEDAGOGICAL AND ANDRAGOGICAL MODELS OF LEARNING

9

By Malcolm S. Knowles

ASSUMPTIONS			PROCESS ELEMENTS		
About:	Pedagogical	Andragogical	Elements	Pedagogical	Andragogical
Concept of the learner	Dependent personality	Increasingly self-directed	Climate Planning Diagnosis of needs Setting of objectives Designing learning plans Learning activities Evaluation	Tense, low trust Formal, cold, aloof Authority-oriented Competitive, judgmental	Relaxed, trusting Mutually respectful Informal, warm Collaborative, supportive
Role of learner's experience	To be built on more than used as a resource	A rich resource for learning by self and others		Primarily by teacher	Mutually by learners and facilitator
Readiness to learn	Uniform by age-level and curriculum	Develops from life tasks and problems		Primarily by teacher	By mutual assessment
Orientation to learning	Subject-centered	Task or problem-centered		Primarily by teacher	By mutual negotiation
Motivation	By external rewards and punishments	By internal incentives, curiosity		Teachers' content plans Course syllabus Logical sequence	Learning contracts Learning projects Sequenced by readiness
<p>The body of theory and practice on which teacher-directed learning is based is often given the label "pedagogy," from the Greek words <u>paid</u> (meaning child) and <u>agogos</u> (meaning guide or leader)--thus being defined as the art and science of teaching children.</p> <p>The body of theory and practice on which self-directed learning is based is coming to be labeled "andragogy," from the Greek word <u>aner</u> (meaning adult)--thus being defined as the art and science of helping adults (or, even better, maturing human beings) learn.</p>				Transmittal techniques Assigned readings	Inquiry projects Independent study Experiential techniques
				By teacher Norm-referenced (on a curve) With grades	By learner-collected evidence validated by peers, facilitators, experts Criterion-referenced

These two models do not represent bad/good or child/adult dichotomies, but rather a continuum of assumptions to be checked out in terms of their rightness for particular learners in particular situations. If a pedagogical assumption is realistic for a particular situation, then pedagogical strategies are appropriate. For example, if a learner is entering into a totally strange content area, he or she will be dependent on a teacher until enough content has been acquired to enable self-directed inquiry to begin.

(10) (3)

TRAINER'S PROCESS PLAN

Program: _____

Trainer: _____

Date: _____

Time: _____

AT THE OPENING SESSION:

1. How will you introduce yourself? How will you describe your perception of your role, your special resources and limitations, your availability for consultations, etc.?
2. What procedures will you use to engage the participants in becoming acquainted with one another in terms of their work experience, resources, interests.
3. What other procedures will you use to establish a climate of mutual respect, collaborativeness rather than competitiveness, informality, security, warmth of relationship with you, supportiveness, etc.?
4. How will you engage the participants in examining, clarifying, and influencing the objectives of the program?
5. How will you acquaint the students with your plan of work for the program and their responsibilities in it?

- (11) ~~(12)~~
6. How will you help them prepare to carry the responsibilities you expect of them?
 7. How will you acquaint the participants with the resources (material and human) available to them for accomplishing their learning objectives?
 8. What learning activities will you suggest the participants engage in between the first and second sessions of the program?
 9. What physical arrangement of your meeting room do you prefer to facilitate interaction among the participants and between them and you?

IN SUBSEQUENT SESSIONS (indicate which session when appropriate):

1. How will you engage the participants in diagnosing their individual and collective needs and interests regarding the content of the program?
2. How will you engage the participants in formulating learning objectives based on their diagnosed needs and interests?

3. What specific learning strategies (methods, techniques, devices, materials, etc.) do you propose using in this program?
4. How will the participants be involved in selecting and participating in these strategies?
5. What procedures and tools will you use for helping participants assess their progress toward their objectives?
6. What procedures and tools will you use for evaluating learning outcomes at the end of the program?
7. If appropriate, how will evaluation of their performance be arrived at?
8. What procedures and tools will you use for getting feedback from the participants periodically and at the end regarding the quality of this learning experience?
9. What content do you expect to be acquired through this program (including knowledge, understanding, skills, attitudes, and values)?

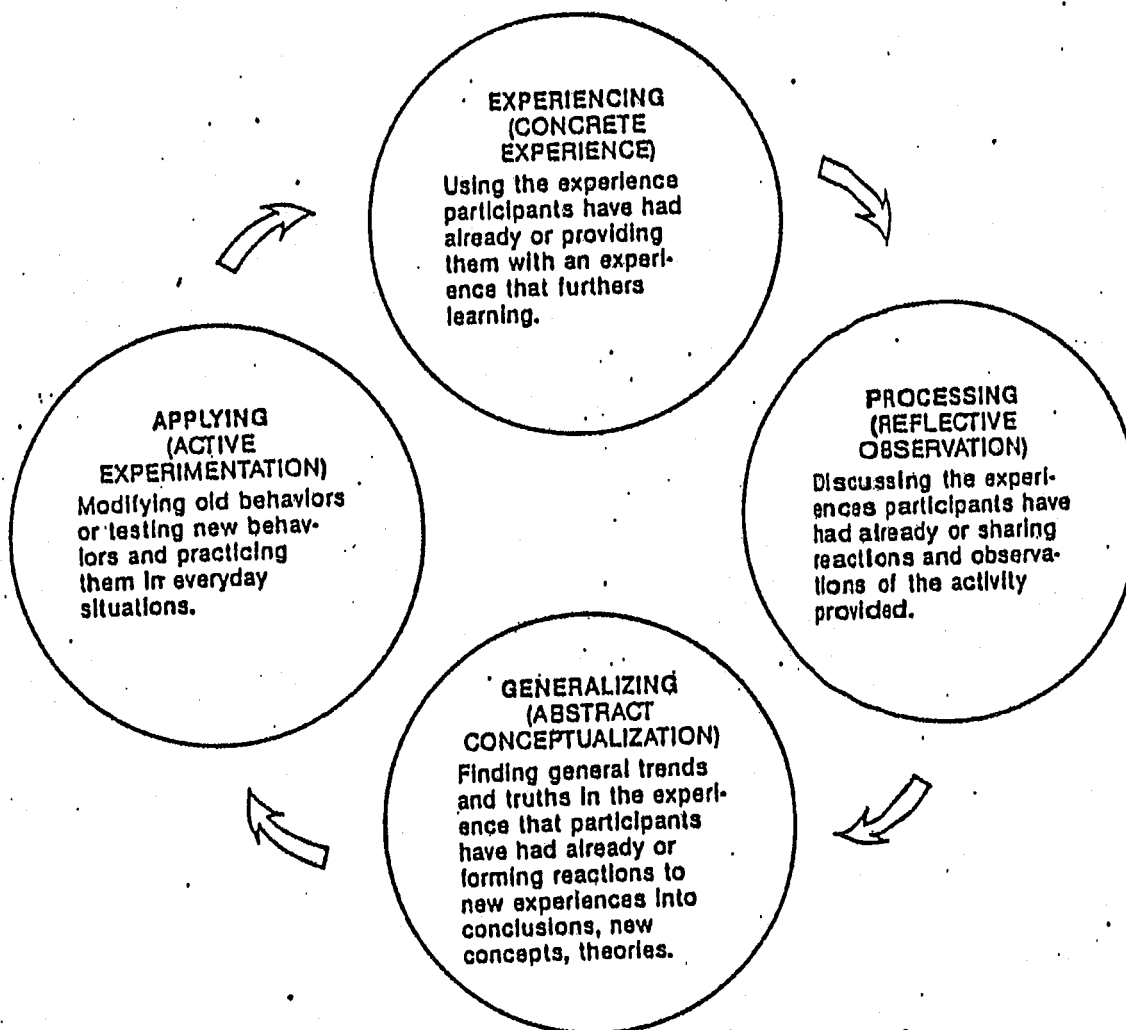


Figure 1. The Adult Learning Cycle

LEARNING CYCLE

- Cannot be Abridged (simply)

- ✓ because a person prefers
 - ✓ one particular approach to learning

- Must be completed if

- ✓ effective
 - ✓ lasting

X learning is to occur.

- For the learning to "Jell"

- For the participant/trainee to "own" whatever is learned

- ✓ the learner must move
 - ✓ through and be involved the entire cycle

X concrete experience/activity →

X publishing/impartial reflective observation/processing →

X abstract conceptualization/generalizing →

X active experimentation/applying →

- Therefore, it is necessary that a trainer be able

- ✓ to lead participants/trainees skillfully
 - ✓ through all aspects of the learning cycle.

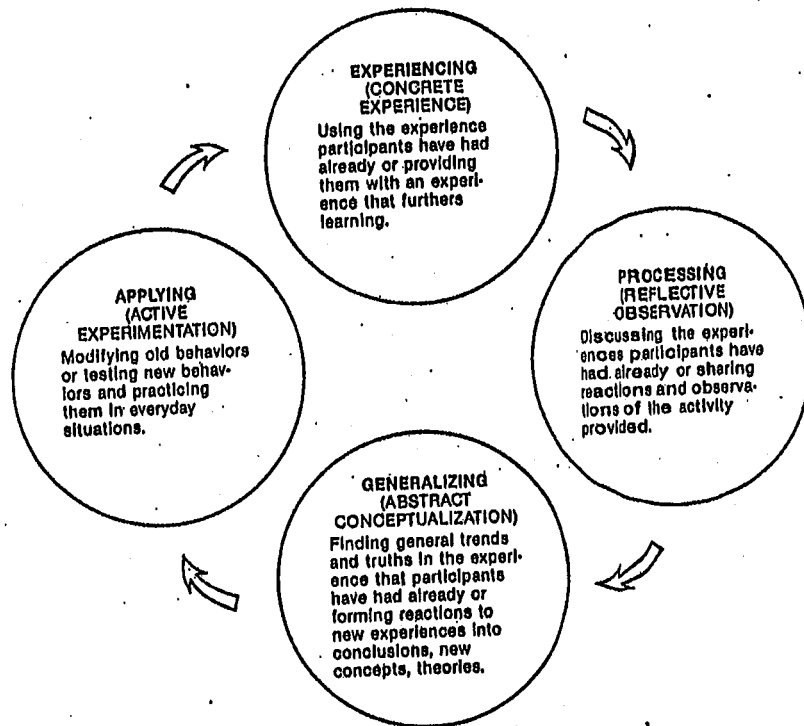


Figure 1. The Adult Learning Cycle

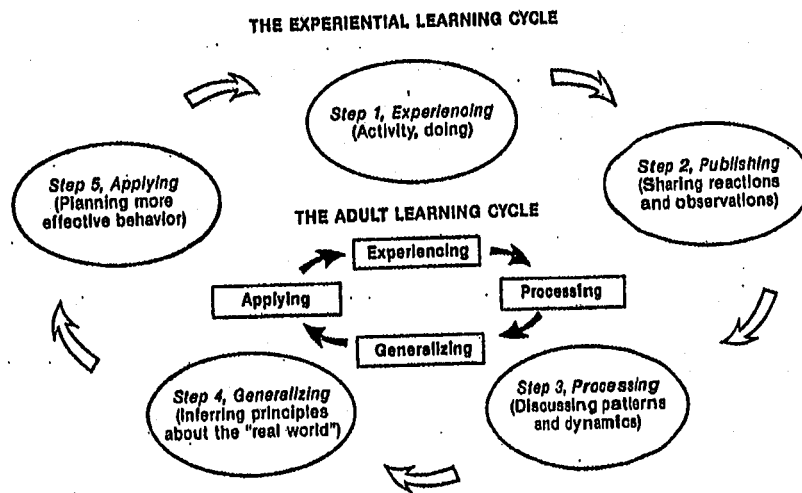


Figure 2. The Experiential Learning Cycle and the Adult Learning Cycle

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J. William Pfeiffer and Leonard D. Goodstein, Editors
San Diego, California: University Associates, 1986

Pedagogical | Andragogical Learning Cycle

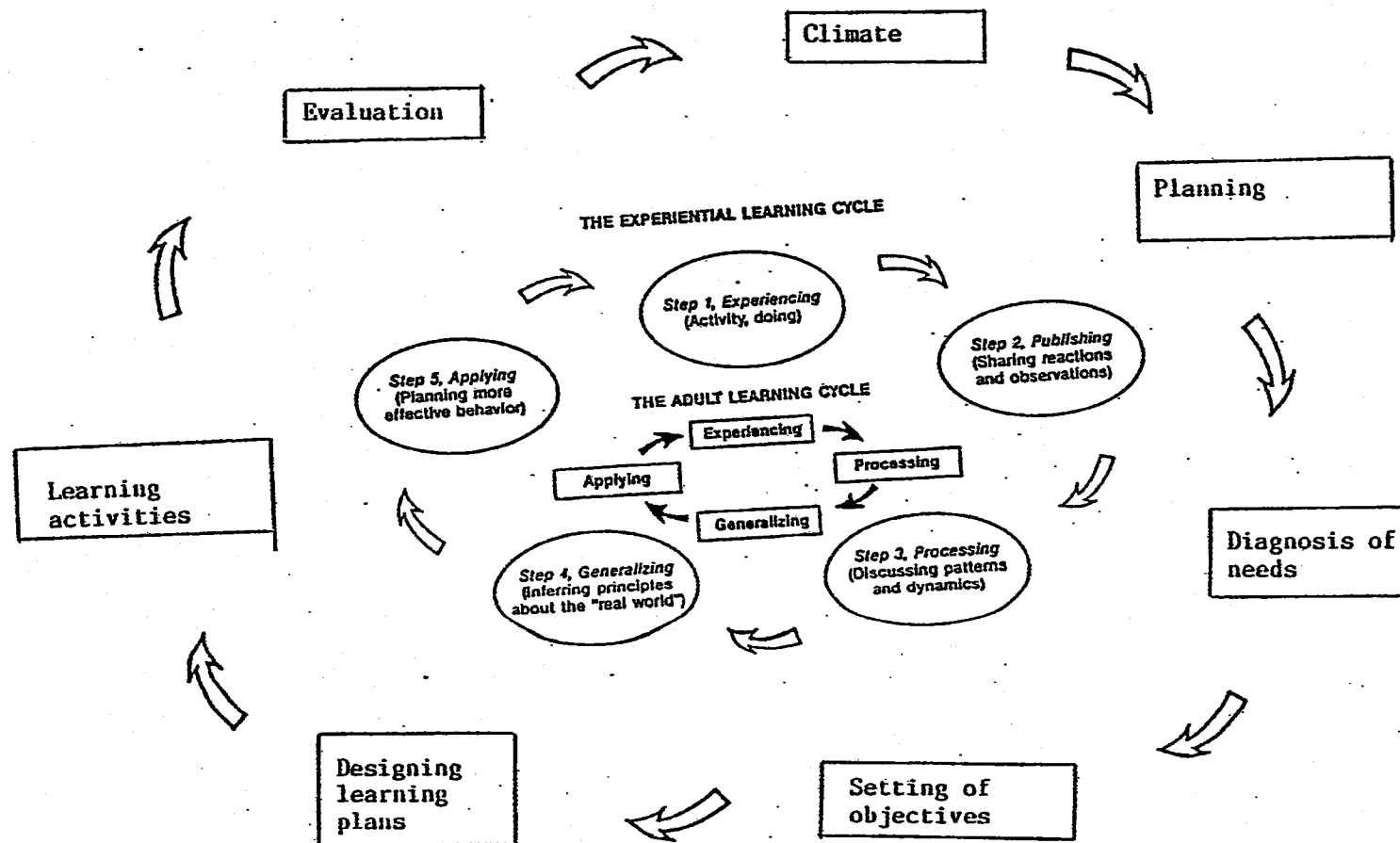
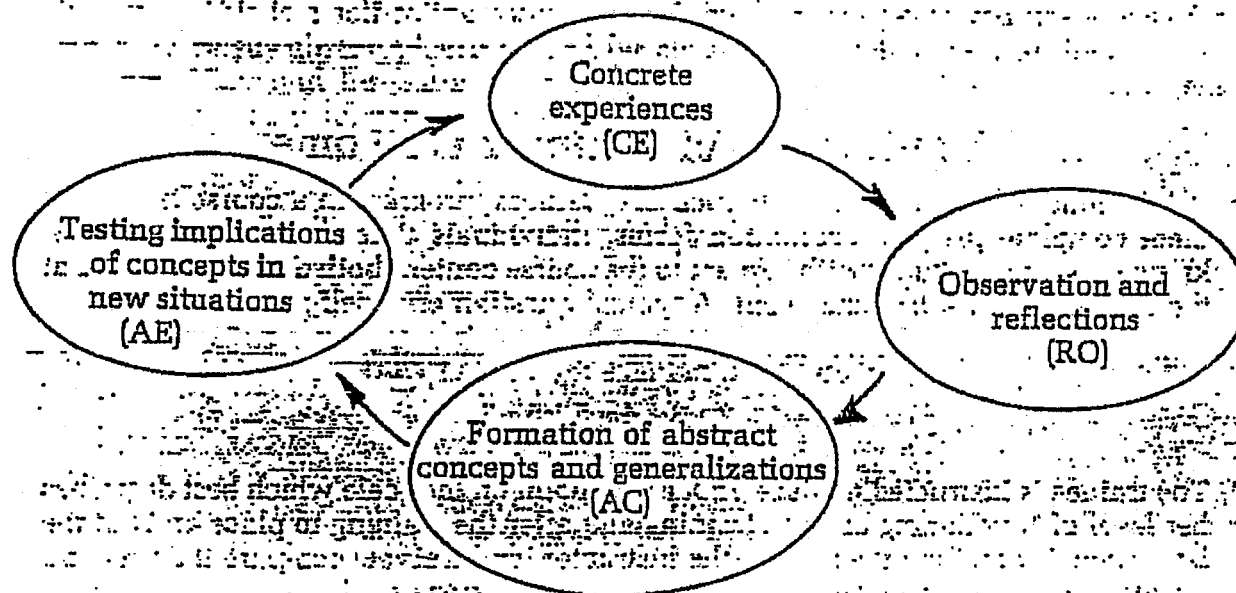


Figure 3 The Experiential Learning Cycle, The Adult Learning Cycle and the PEDAGOGICAL AND ANDRAGOGICAL Learning Cycle

The Experiential Learning Cycle

David Kolb, a developmental psychologist, has developed a way of looking at adult learning as an "experiential process"¹. Learning for him is a four-stage cycle: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE).



A learner, to be fully effective, needs four different abilities. She must be able to involve herself fully, openly, and without bias in new experiences (CE), she must be able to reflect on and observe these experiences from many perspectives (RO), she must be able to create concepts that integrate her observations into logically sound theories (AC), and she must be able to use these theories to make decisions and solve problems (AE).

To state it another way², learning can be seen as a process in which a person experiences something directly, not vicariously, reflects on the experience as something new or as related to other experiences, develops some concept by which to name the experience, and uses the concept in subsequent actions as a guide for behavior. Out of these four steps the person derives a new set of experiences that lead to a repeat of the learning cycle.

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Training Associates Ltd., Vancouver, B.C. Canada. 1983

¹Kolb has developed a Learning Styles Inventory (see next page) and written extensively on the use of learning styles information in problem-solving, career planning, and course development. A good place to start reading is: Kolb, D. & Fry, R. "Toward an Applied Theory of Experiential Learning," in G. Cooper (ed.) *Theories of Group Process*. London: Wiley, 1975.

²How might you apply the experiential learning model in field projects, practice and internships? For suggestions see: Glen L. Gish, "The Learning Cycle," *Synergist*, Spring 1979, pp 2-8.

THE LEARNING STYLE INVENTORY

18

This survey is for describing how you learn—the way you find out about and deal with ideas and situations in your life. Different people learn best in different ways. The different ways of learning described in the survey are equally good. The aim is to describe how you learn, not to evaluate your learning ability. You might find it hard to choose the descriptions that best characterize your learning style. Keep in mind that there are no right or wrong answers—all the choices are equally acceptable.

Instructions

There are nine sets of four descriptions listed in this inventory. Mark the words in each set that are most like you, second most like you, third most like you, and least like you. Put a four (4) next to the description that is most like you, a three (3) next to the description that is second most like you, a two (2) next to the description that is third most like you, and a one (1) next to the description that is least like you (4 = *most* like you; 1 = *least* like you). Be sure to assign a different rank number to each of the four words in each set; *do not make ties*.

Example:

0. 4 happy 3 fast 1 angry 2 careful

(Some people find it easiest to decide first which word best describes them (4 happy) and then to decide the word that is least like them (1 angry). Then you can give a 3 to that word in the remaining pair that is most like you (3 fast) and a 2 to the word that is left over (2 careful).

- | | | | |
|---------------------------------|-------------------------|-------------------------------|-----------------------------|
| 1. <u> </u> discriminating | <u> </u> tentative | <u> </u> involved | <u> </u> practical |
| 2. <u> </u> receptive | <u> </u> relevant | <u> </u> analytical | <u> </u> impartial |
| 3. <u> </u> feeling | <u> </u> watching | <u> </u> thinking | <u> </u> doing |
| 4. <u> </u> accepting | <u> </u> risk taker | <u> </u> evaluative | <u> </u> aware |
| 5. <u> </u> intuitive | <u> </u> productive | <u> </u> logical | <u> </u> questioning |
| 6. <u> </u> abstract | <u> </u> observing | <u> </u> concrete | <u> </u> active |
| 7. <u> </u> present-oriented | <u> </u> reflecting | <u> </u> future-oriented | <u> </u> pragmatic |
| 8. <u> </u> experience | <u> </u> observation | <u> </u> conceptualization | <u> </u> experimentation |
| 9. <u> </u> intense | <u> </u> reserved | <u> </u> rational | <u> </u> responsible |

Scoring Instructions

The four columns of words correspond to the four learning style scales: CE, RO, AC, and AE. To compute your scale scores, write your rank numbers in the boxes below only for the designated items. For example, in the third column (AC), you would fill in the rank numbers you have assigned to items 2, 3, 4, 5, 8, and 9. Compute your scale scores by adding the rank numbers for each set of boxes.

Score items:
2 3 4 5 7 8

CE =

Score items:
1 3 6 7 8 9

RO =

Score items:
2 3 4 5 8 9

AC =

Score items:
1 3 6 7 8 9

AE =

To compute the two combination scores, subtract CE from AC and subtract RO from AE. Preserve negative signs if they appear.

AC-CE: ^{AC} - ^{CE} =

AE-RO: ^{AE} - ^{RO} =

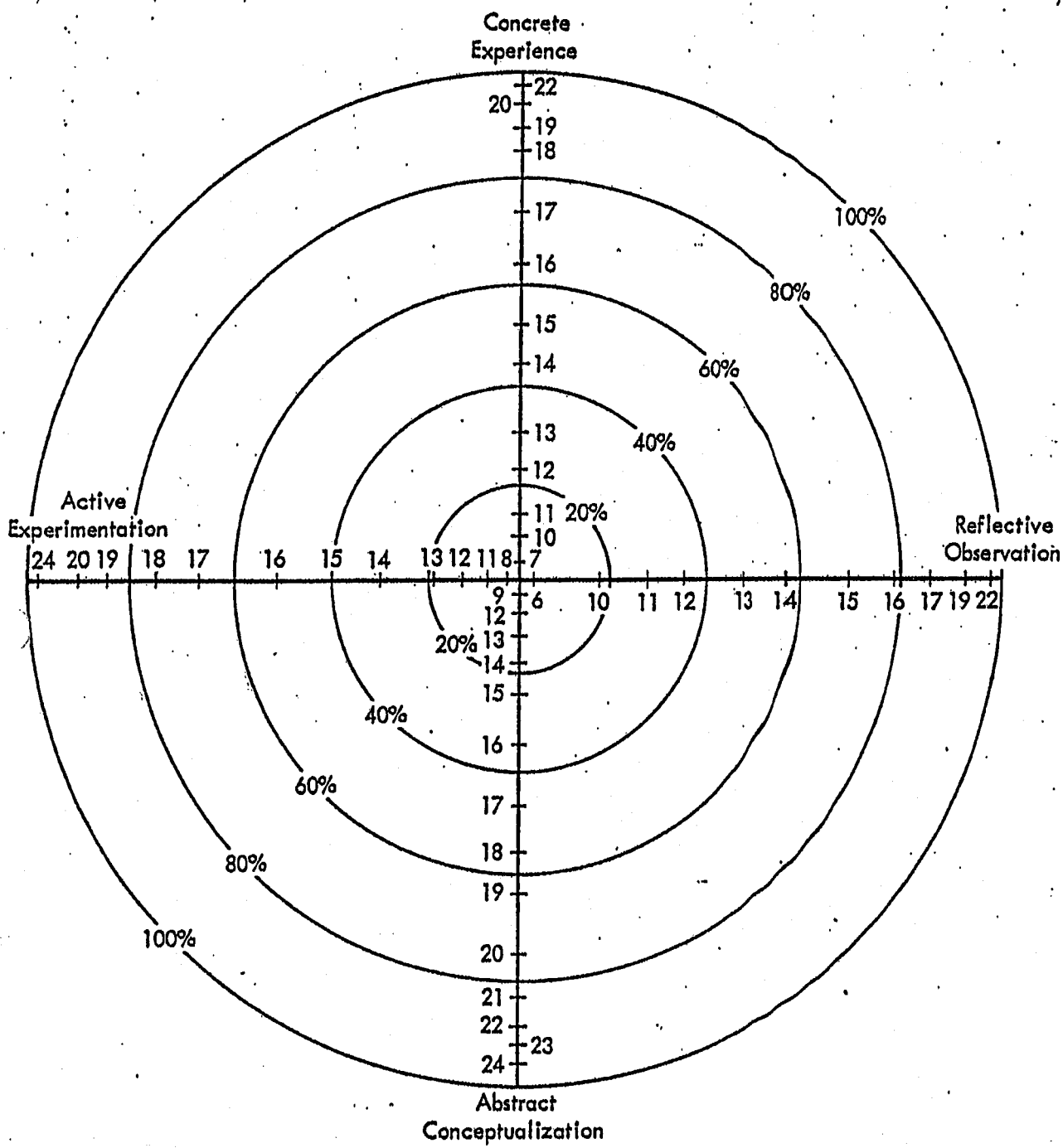


FIGURE 2-1 The Learning Style Profile Norms for the Learning Style Inventory (Copyright 1976 by David A. Kolb)

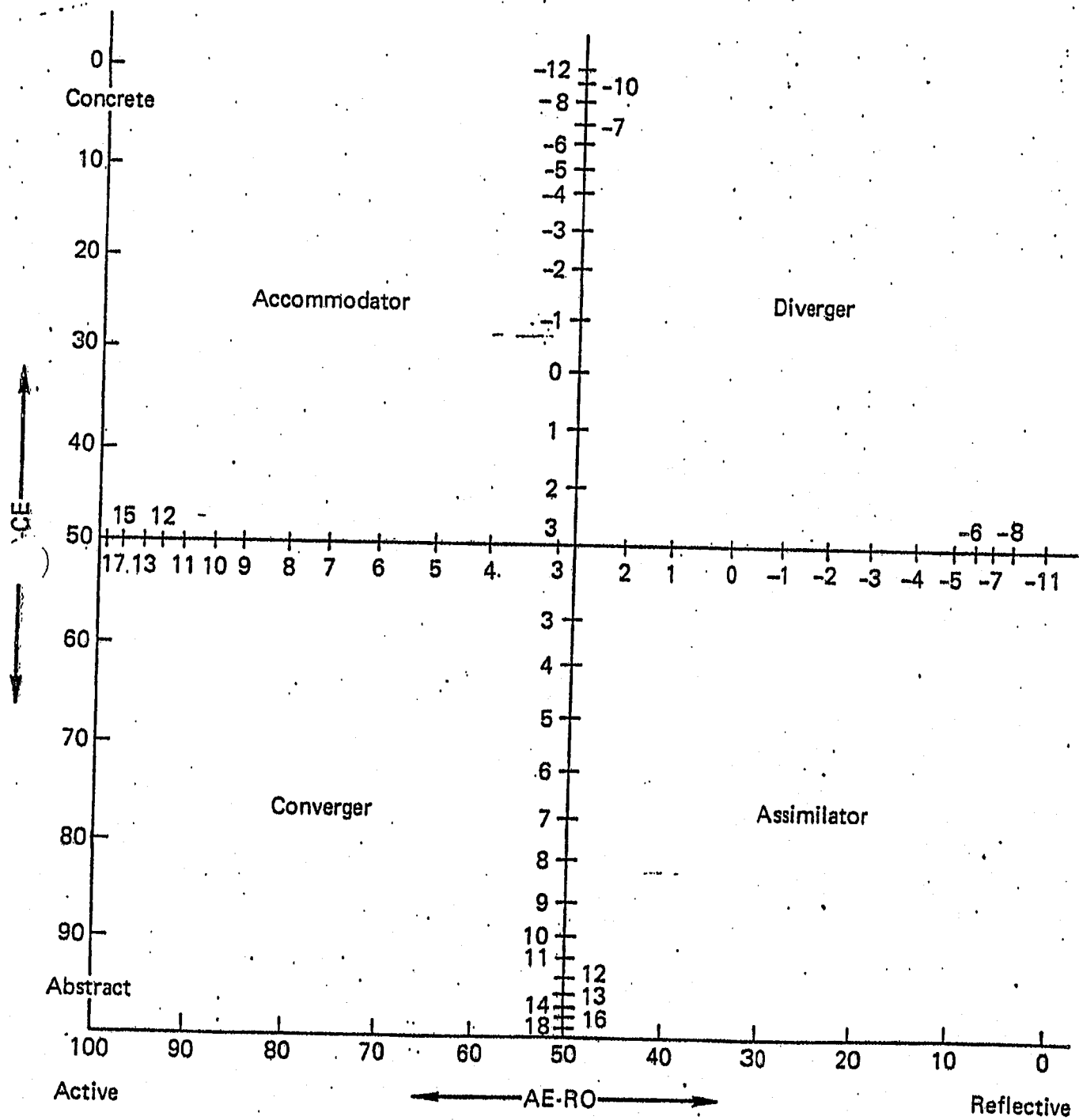


FIGURE 2-2 Learning Style Type Grid (Copyright 1976 by David A. Kolb)

Consider Learning Styles When Planning Programs

"Learning style" is the unique way each individual gathers and processes information. By understanding these differences and taking them into consideration when designing any type of educational program, you can have more effective learning outcomes, more positive learner participation, and even reduce training time¹. Kolb's Learning Styles Inventory² has been developed to measure a person's learning style. This is a self-rating assessment of the learner's perceived preference for concrete versus abstract learning and for active versus reflective learning.

David Kolb and his associates have tested the LSI on a number of different groups, such as managers, college students, medical students, and college faculty. The results helped identify four statistically different types of learning styles, which Kolb has designated as "Converger, Diverger, Assimilator, and Accommodator." Their characteristics are summarized below.

CONVERGER

The Converger's learning style emphasizes abilities in Abstract Conceptualization (AC) and Active Experimentation (AE). An individual with this learning style seems to do best in activities requiring the practical application of ideas. His knowledge seems to be organized so that through hypothetical deductive reasoning he may focus it on specific problems. Research has shown Convergents to be relatively unemotional, having a preference for working with "things" rather than people, and having narrow technical interests, generally choosing to specialize in engineering and physical sciences.

DIVERGER

The Diverger has a learning style opposite to that of the Converger, with strength in imaginative ability and being able to view complex situations from many perspectives. He performs well in "brainstorming" sessions. Research has shown Divergers to be interested in people, having broad cultural interests often specializing in the arts. This style of learning is characteristic of humanities and liberal arts programs. Counselors, personnel managers, and sociologists tend toward this style.

ASSIMILATOR

The Assimilator's dominant learning abilities are Abstract Conceptualization (AC) and Reflective Observation (RO). Persons with this learning style excel in the creation of theoretical models and inductive reasoning. Although he is concerned with the practical use of theories, it is more important to the Assimilator that the theory be logically sound; and if the theory does not fit the "facts," he is likely to re-examine those facts. This learning style is more characteristic of persons in the basic sciences and mathematics than the applied sciences.

Koib's Model

strengths

- ...avoids hierarchial judgments and argues that each style of learning has its strengths and weaknesses and its appropriate place;
- ...translates experience into concepts that can be used to guide the choice of new experiences;
- ...forms a useful basis for curriculum planning, implementation, and evaluation;
- ...provides for a range of educational and occupational groups;

weaknesses

- ...method of measuring learning styles has been sharply criticized;
- ...questionnaire is forced-choice in that method of scoring results in the four dimensions being dependent on one another;
- ...classification of some items questioned (i.e. 'evaluative' could be thought to describe reflective observation instead of abstract conceptualization.
- ...test-retest data suggest individual's scores may be rather volatile

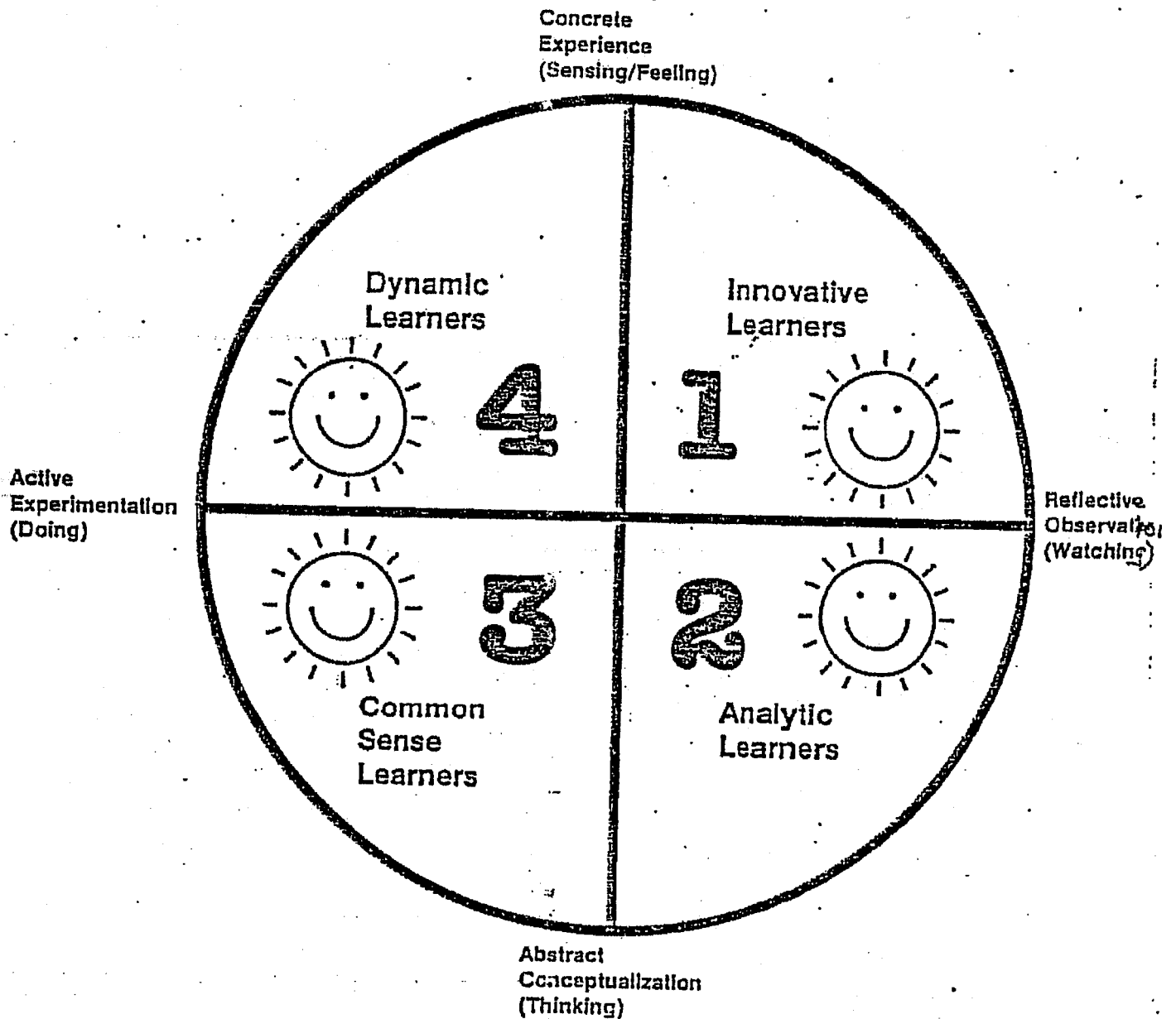
ADULT EDUCATION WORKSHOP

1. To increase my andragogical approach to teaching, the two most significant ideas I encountered today were:

2. Because of this session, I am going to learn more about:

LEARNING STYLE CHARACTERISTICS

The following descriptions were formed by combining the major findings of the learning style researchers.



Style One
"Innovative Learners"

Seek meaning.
Need to be involved personally.
Learn by listening and sharing ideas.
Absorb reality.
Perceive information concretely and process it reflectively.
Interested in people and culture. They are divergent thinkers who believe in their own experience, excel in viewing concrete situations from many perspectives, and model themselves on those they respect.
Function through social interaction.
Strength: Innovation and imagination.
They are idea people.
Goals: Self-involvement in important issues, bringing unity to diversity.
Favorite questions: "Why or why not?"
Careers: Counseling, personnel, humanities, organizational development.

Style Two
"Analytic Learners"

Seek facts.
Need to know what the experts think.
Learn by thinking through ideas. They form reality.
Perceive information abstractly and process it reflectively.
Less interested in people than ideas and concepts; they critique information and are data collectors. Thorough and industrious, they will re-examine facts if situations perplex them.
They enjoy traditional classrooms.
Schools are designed for these learners.
Function by adapting to experts.
Strength: Creating concepts and models.
Goals: Self-satisfaction and intellectual recognition.
Favorite question: "What?"
Careers: Basic sciences, math, research, planning departments.

Style Three
"Common Sense Learners"

Seek usability.

Need to know how things work.

Learn by testing theories in ways that seem sensible. They edit reality.

Perceive information abstractly and process it actively. Use factual data to build designed concepts, need hands-on experiences, enjoy solving problems, resent being given answers, restrict judgment to concrete things, have limited tolerance for "fuzzy" ideas. They need to know how things they are asked to do will help in "real life."

Function through inferences drawn from sensory experience.

Strength: Practical application of ideas.

Goal: To bring their view of present into line with future security.

Favorite question: "How does this work?"

Careers: Engineering, physical sciences, nursing, technicians.

Style Four
"Dynamic Learners"

Seek hidden possibilities.

Need to know what can be done with things.

Learn by trial-and-error, self-discovery.

Enrich reality.

Perceive information concretely and process it actively.

Adaptable to change and relish it; like variety and excel in situations calling for flexibility.

Tend to take risks, at ease with people but sometimes seen as pushy. Often reach accurate conclusions in the absence of logical justification.

Function by acting and testing experience.

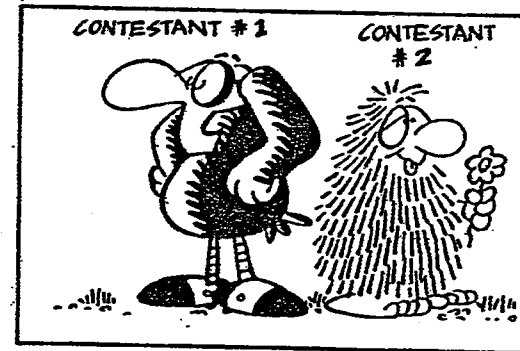
Strength: Action, carrying out plans.

Goals: To make things happen, to bring action to concepts.

Favorite question: "What can this become?"

Careers: Marketing, sales, action-oriented managerial jobs.

BROOM HILDA

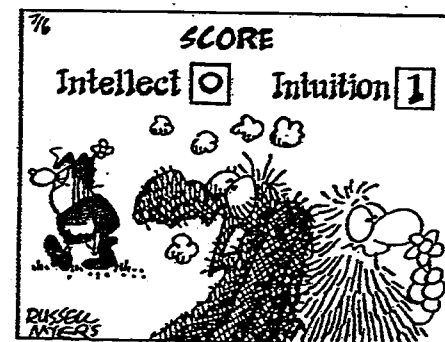
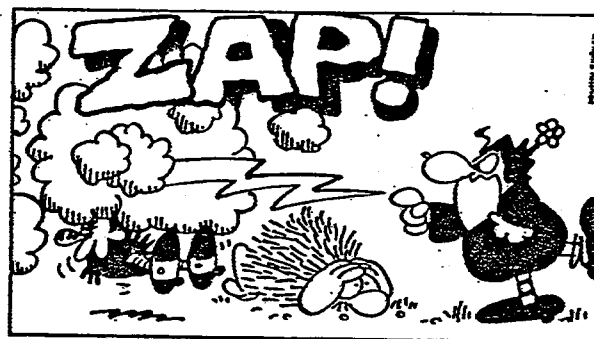
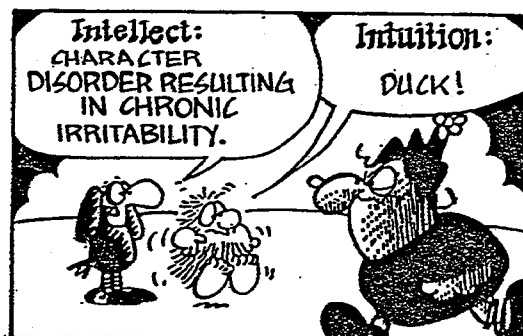
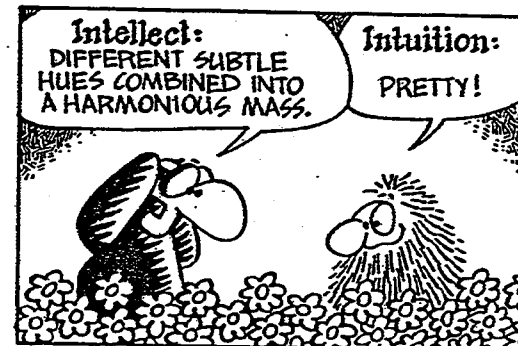
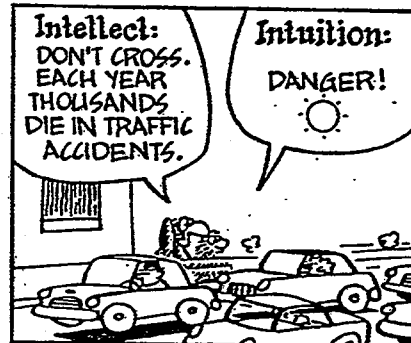
**Intellect
vs.
Intuition**

**ROUND
ONE**

DEFINITIONS:

Intellect: COLLECTION OF LEARNED FACTS. NO GUARANTEE OF RELEVANCY.

Intuition: INSPIRATION AND PERCEPTION SPRINGING FROM UNLIMITED RESERVOIR OF INNER TRUTH.



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ORIENTATIONS INVENTORY

Instructions: Respond to each of statements 1 through 18 and 20 through 26 by writing a check mark in the blank that completes the statement so that it is *more true for you* or is *true for you more of the time* than the alternative. Complete items 18 and 27 by following the specific instructions written next to each of those item numbers.

1. When planning the activities of my day, I usually
 - ☐ a. make a list of all the things I need to accomplish.
 - ☐ b. picture the places I will go, people I will see, things I will do.
2. I prefer to
 - ☐ a. summarize readings.
 - ☐ b. outline readings.
3. When I need to motivate myself, what works best is
 - ☐ a. competing with myself.
 - ☐ b. competing with others.
4. When I go to a movie, I usually sit
 - ☐ a. on the left side of the theater.
 - ☐ b. on the right side of the theater.
5. When I approach a problem, I am likely to
 - ☐ a. try to find the one best way to solve it.
 - ☐ b. think of a number of different ways to solve it.
6. When preparing myself for a new or difficult task, I am more likely to
 - ☐ a. compile extensive information about the task.
 - ☐ b. visualize myself accomplishing the task.
7. I am skilled in
 - ☐ a. the statistical, scientific prediction of outcomes.
 - ☐ b. the intuitive prediction of outcomes.
8. When I meet someone it is easier for me to
 - ☐ a. remember the person's name.
 - ☐ b. remember the person's face.

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 J. William Pfeiffer, Editor
 San Diego, California: University Associates, 1988

9. When I shop I have a tendency to buy
 - ☐ a. on impulse.
 - ☐ b. after carefully reading the labels and comparing costs.
10. Generally speaking, I absorb new ideas best by
 - ☐ a. contrasting them to other ideas.
 - ☐ b. applying them to concrete situations.
11. Daydreaming is
 - ☐ a. a viable tool for planning and problem solving.
 - ☐ b. a waste of time.
12. I am strongest at recalling
 - ☐ a. spatial imagery (the room arrangement, where people sat, etc.).
 - ☐ b. verbal materials (names, dates, etc.).
13. To outline a scheme to someone, I am likely to
 - ☐ a. use a paper and pencil.
 - ☐ b. explain it orally.
14. During oral explanations I am generally
 - ☐ a. attentive.
 - ☐ b. restless.
15. When someone gives me an assignment, I would rather have
 - ☐ a. specific instructions.
 - ☐ b. flexible instructions.
16. After attending a good movie, I enjoy
 - ☐ a. visualizing scenes from the movie in my mind.
 - ☐ b. quoting dialog from the movie.
17. I learn athletics better by
 - ☐ a. watching someone and getting the feel of the game.
 - ☐ b. thinking about the sequence and repeating the steps.
18. If I had a choice, I would rather work
 - ☐ a. by myself.
 - ☐ b. on a team.

The 1988 Annual: Developing Human Resources

19. Check all on the following statements that you feel are true about you:

- ☐ I am outgoing and work well with others.
- ☐ I enjoy swimming.
- ☐ I enjoy skiing.
- ☐ I enjoy bicycling.
- ☐ I am good at thinking up new ideas.
- ☐ I can understand schematics and diagrams.
- ☐ I like to relax and just do nothing.
- ☐ I enjoy dancing.
- ☐ I like to paint or sketch.
- ☐ I strongly visualize the characters, setting, and plot of a book.
- ☐ I postpone making telephone calls.
- ☐ I enjoy fishing.
- ☐ I enjoy running.
- ☐ Ideas frequently come to me out of nowhere.
- ☐ It is easy for me to read people's body language.
- ☐ I like to sing in the shower.
- ☐ I enjoy rearranging my furniture and decorating my home.

20. When I read a recommendation, I am likely to pay the most attention to

- ☐ a. the ideas that are behind the recommendation.
- ☐ b. whether or not the recommendation can be accomplished.

21. When reading a paper, I read

- ☐ a. to understand the main ideas.
- ☐ b. to understand the details and facts.

22. I prefer to learn

- ☐ a. systematically through ordered and planned experiences.
- ☐ b. through free exploration.

23. I have a tendency to make decisions

- ☐ a. after careful thought and analysis.
- ☐ b. on a gut level or by hunch.

24. It is more fun to

- ☐ a. plan realistically about the future.
- ☐ b. dream about the future.

25. I like to organize things

- ☐ a. to show relationships.
- ☐ b. to show sequence.

26. I am more skilled at solving problems

- ☐ a. intuitively.
- ☐ b. logically and rationally.

27. Check all of the following statements that you feel are true about you:

- ☐ I have a place for everything and a system for doing things.
- ☐ I enjoy sewing.
- ☐ I enjoy chess.
- ☐ I enjoy photography.
- ☐ I can extract meaning from contracts, instructional manuals, and leg documents.
- ☐ I find it satisfying to plan and arrange the details of a trip.
- ☐ I like to collect things.
- ☐ I enjoy working on home improvements.
- ☐ I can easily find words in a dictionary and names in a phone book.
- ☐ I take notes at meetings and lectures.
- ☐ I enjoy writing.
- ☐ I play bridge.
- ☐ I am results oriented.
- ☐ I like to read.
- ☐ I play a musical instrument.
- ☐ I enjoy doing crossword puzzles.
- ☐ My work is organized, efficient, and orderly.

ORIENTATIONS SCORING AND INTERPRETATION SHEET

Instructions

For items 1 through 18 and 20 through 26, refer to your inventory and circle the letter of the completion that you checked for each item. For items 19 and 27, follow the specific instructions written beside each of those item numbers.

	Left Brain	Right Brain
1.	a	b
2.	b	a
3.	b	a
4.	a	b
5.	a	b
6.	a	b
7.	a	b
8.	a	b
9.	b	a
10.	b	a
11.	b	a
12.	b	a
13.	b	a
14.	a	b
15.	a	b
16.	b	a
17.	b	a
18.	a	b

19. All statements are *right brain*; 17 check marks are possible. Statements *with* check marks are right-brain responses; statements *without* check marks are left-brain responses. Count your check marks and write your totals below:

Left-brain responses (without check marks): _____

Right-brain responses (with check marks): _____

20. b a

21.	b	a
22.	a	b
23.	a	b
24.	a	b
25.	b	a
26.	b	a

27. All statements are *left brain*; 17 check marks are possible. Statements *with* check marks are left-brain responses; statements *without* check marks are right-brain responses. Count your check marks and write your totals below:

Left-brain responses (with check marks): _____

Right-brain responses (without check marks): _____

Now total your number of left-brain responses as well your number of right-brain responses for all items—including items 19 and 27—and write your totals below:

Total Number of Left-Brain Responses: _____

Total Number of Right-Brain Responses: _____

Interpretation

A person whose total number of either type of response is 32 or above shows a clear preference for that type of thinking. Consequently, someone whose right-brain responses number 32 or more shows a clear preference for right-brain thinking. A right-brain thinker may demonstrate considerable creative, musical, or artistic talents. When called on to make a decision or to participate in a problem-solving or decision-making task, a right-brain thinker often relies on feelings and intuition. Such a person is good at recognizing patterns with minimal data provided and may excel at solving complex problems that require creativity and insight.

An individual whose total number of left-brain responses is 32 or above shows a clear preference for left-brain thinking. He or she may demonstrate strong verbal, logical, or analytical skills. Such a person tends to be meticulous and well organized and probably excels at planning, projecting costs, or performing similar tasks requiring precise attention to detail.




A person whose totals do not indicate a clear preference may possess both left- and right-brain problem-solving skills. Such a person may be flexible in his or her approach to problem solving, and this flexibility may be an asset to a group problem-solving effort.

Your total numbers of left-brain and right-brain responses are most useful when they are compared with the responses of others in any group to which you belong. It is a good idea to become aware of your orientation (right brain or left brain) and to develop an understanding of the impact that it may have on your own and your group's ability to solve problems and make decisions. Then, when you and your fellow group members share and begin to understand one another's orientations, you can take greater advantage of each member's assets when working together on a task.

32

19

HEMISPHERIC DOMINANCE SCREENING

TEST	RIGHT	LEFT
1. Handedness	L	R -
2. Eye	L	R
3. Writing Position	Hooked	Straight
4. Muscle Tasting	L Stronger	R Stronger
5. Facial Symmetry	L Pronounced	R Pronounced
6. Posture	Loose	Straight
7. Shoulder	L Higher	R Higher
8. Turning of Eyes	 Visual	  Haptic Auditory

NOTES

DISCOVERING YOUR HEMISPHERIC PREFERENCE

1. Tear a small hole in a piece of paper. Look through it with one eye. Which eye did you use?
2. Which hand do you write with?
3. If you are right handed, is your hand position hooked or straight?
4. Have someone test your muscle strength. Which arm is the strongest? Are they both the same?
5. Have someone look at your face. Which side appears larger? Which foot is larger?
6. Have someone ask you a number of memory questions. Which direction do your eyes move? Do they change for different types of questions?
7. Can you visualize an object in your head? Where?
8. Can you hear music or the sound of the ocean in your head? Where?

NOTES

LEFT, RIGHT, INTEGRATED BRAIN DOMINANCE CHARACTERISTICS

<i>Left</i>	<i>Right</i>	<i>Integrated</i>
• Intellectual	• Intuitive	Equally facile at both
• Remembers names	• Remembers faces	Equally facile at both
• Responds to verbal instructions and explanations	• Responds to demonstrated, illustrated or symbolic instructions	Equally facile at both
• Experiments systematically and with control	• Experiments randomly and with less restraint	Equally facile at both
• Prefers solving problems by breaking them down into parts, then approaching the problem sequentially, using logic	• Prefers solving problems by looking at the whole, the configurations, then approaching the problem through patterns, using hunches	Equally facile at both
• Makes objective judgments, extrinsic to person, looks at otherness	• Makes subjective judgment, intrinsic to person, looks at sameness	Equally facile at both
• Planned and structured	• Fluid and spontaneous	Equally facile at both
• Prefers established, certain information	• Prefers elusive, uncertain information	Equally facile at both
• Analytic reader	• Synthesizing reader	Equally facile at both
• Primary reliance on language in thinking and remembering	• Primary reliance on images in thinking and remembering	Equally facile at both
• Prefers talking and writing	• Prefers drawing and manipulating objects	Equally facile at both
• Prefers multiple choice tests	• Prefers open-ended questions	Equally facile at both
• Prefers work and/or studies carefully planned	• Prefers work and/or studies open-ended	Equally facile at both
• Prefers hierarchical (ranked) authority structures	• Prefers collegial (participative) authority structures	Equally facile at both
• Controls feelings	• More free with feelings	Equally facile at both
• Responds best to auditory, visual stimuli	• Responds best to kinetic stimuli (movement, action)	Equally facile at both
• Not facile in interpreting body language	• Good at interpreting body language	Equally facile at both
• Responsive to structure of environment	• Essentially self acting	Equally facile at both
• Rarely uses metaphors and analogies	• Frequently uses metaphors and analogies	Equally facile at both
• Favors logical problem solving	• Favors intuitive problem solving	Equally facile at both
• Prefers single variable research	• Prefers multi-variable research	Equally facile at both

Adapted from *Your Style of Learning and Thinking, Forms B and C* by E. Paul Torrance⁹, University of Georgia, Athens, GA. 30602

Write a few lines about the following:

1. As I reflect on my most successful experience as a trainer, I remember....

2. What I like most about being a trainer is....

3. My favorite instructional technique is....

4. What I find most difficult about training is....

TRAINER TYPE INVENTORY (TTI)
Mardy Wheeler and Jeanie Marshall

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Instructions: There are twelve sets of four words or phrases listed below. Rank order the words or phrases in each set by assigning a 4 to the word or phrase that most closely applies to or reflects your personal training style, a 3 to the word or phrase that next best applies to your training style, a 2 to the one that next applies your training style, and a 1 to the word or phrase that is least descriptive of your training style. Be sure to assign a different ranking number to each of the four choices in each set.

You may find it difficult to rank the items. Be assured that there are no right or wrong answers; the purpose of the inventory is to describe the style in which you train most often, not how effectively you train.

<p>1.</p> <p>a _____ Subgroups</p> <p>b _____ Lectures</p> <p>c _____ Readings</p> <p>d _____ Lecture-discussions</p>	<p>2.</p> <p>a _____ Showing</p> <p>b _____ Perceiving</p> <p>c _____ Helping</p> <p>d _____ Hearing</p>	<p>3.</p> <p>a _____ Symbols</p> <p>b _____ Actions</p> <p>c _____ People</p> <p>d _____ Instructions</p>
-----------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------

<p>4.</p> <p>a _____ Small-group discussions</p> <p>b _____ Free expression</p> <p>c _____ Little participation</p> <p>d _____ Time to think</p>	<p>5.</p> <p>a _____ Immediate personal feedback</p> <p>b _____ Objective tests</p> <p>c _____ Subjective tests</p> <p>d _____ Personal evaluation</p>	<p>6.</p> <p>a _____ Expert</p> <p>b _____ Scholar</p> <p>c _____ Advisor</p> <p>d _____ Friend</p>
--------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------

<p>7.</p> <p>a _____ Theory</p> <p>b _____ Practical skills</p> <p>c _____ Application to real life</p> <p>d _____ New ways of seeing things</p>	<p>8.</p> <p>a _____ Coach</p> <p>b _____ Listener</p> <p>c _____ Director</p> <p>d _____ Interpreter</p>	<p>9.</p> <p>a _____ Seeing "who"</p> <p>b _____ Telling "how"</p> <p>c _____ Finding "why"</p> <p>d _____ Asking "what"</p>
--------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------

<p>10.</p> <p>a _____ Processing</p> <p>b _____ Generalizing</p> <p>c _____ Doing</p> <p>d _____ Publishing</p>	<p>11.</p> <p>a _____ Lead them to understand it</p> <p>b _____ Leave them to do it</p> <p>c _____ Let them enjoy it</p> <p>d _____ Get them to think about it</p>	<p>12.</p> <p>a _____ It's yours</p> <p>b _____ It's ours</p> <p>c _____ It's mine</p> <p>d _____ It's theirs</p>
-----------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------

TRAINER TYPE INVENTORY SCORING SHEET

Instructions: Each word or phrase in each of the twelve sets on the TTI corresponds to one of four training styles, which will be described on the TTI Interpretation Sheet. To compute your scale scores for each type, transfer your numerical ranking for each item on the inventory to the appropriate space in the columns below. Then add up the numbers in each column and enter the totals in the spaces below the columns. The totals are your scores for the four training types.

L: 1a_____	D: 1b_____	I: 1c_____	G: 1d_____
2d_____	2a_____	2b_____	2c_____
3c_____	3d_____	3a_____	3b_____
4b_____	4c_____	4d_____	4a_____
5a_____	5b_____	5c_____	5d_____
6d_____	6a_____	6b_____	6c_____
7c_____	7d_____	7a_____	7b_____
8b_____	8c_____	8d_____	8a_____
9a_____	9b_____	9c_____	9d_____
10d_____	10a_____	10b_____	10c_____
11c_____	11d_____	11a_____	11b_____
12b_____	12c_____	12d_____	12a_____
Total:_____	Total:_____	Total:_____	Total:_____

TRAINER TYPE INVENTORY INTERPRETATION SHEET

Each of the four training styles identified by the TTI is characterized by a certain training approach, way of presenting content, and relationship between the trainer and the trainees. The following are the primary characteristics of the trainer for each of the four training types.

LISTENER (L)

- Creates an affective learning environment
- Trains the Concrete Experiencer most effectively
- Encourages learners to express personal needs freely
- Assures that everyone is heard
- Shows awareness of individual group members
- Reads nonverbal behavior
- Prefers that trainees talk more than the trainer
- Wants learners to be self-directed and autonomous
- Exposes own emotions and experiences
- Shows empathy
- Feels comfortable with all types of expression (words, gestures, hugs, music, art, etc.)
- Does not seem to "worry" about the training
- Stays in the "here-and-now"
- Is practical ("goes with the flow")
- Appears relaxed and unhurried

DIRECTOR (D)

- Creates a perceptual learning environment
- Trains the Reflective Observer most effectively
- Takes charge
- Gives directions
- Prepares notes and outlines
- Appears self-confident
- Is well organized
- Evaluates with objective criteria
- Is the final judge of what is learned
- Uses lectures
- Is conscientious (sticks to the announced agenda)
- Concentrates on a single item at a time
- Tells participants what to do
- Is conscious of time
- Develops contingency plans
- Provides examples
- Limits and controls participation

INTERPRETER (I)

- Creates a symbolic learning environment
- Trains the Abstract Conceptualizer most effectively
- Encourages learners to memorize and master terms and rules
- Makes connections (ties the past to the present, is concerned with the flow of the training design)
- Integrates theories and events
- Separates self from learners, observes
- Shares ideas but not feelings
- Acknowledges others' interpretations as well as own
- Uses theory as a foundation
- Encourages generalizations
- Presents well-constructed interpretations
- Listens for thoughts; often overlooks emotions
- Wants trainees to have a thorough understanding of facts, terminology
- Uses case studies, lectures, readings
- Encourages learners to think independently
- Provides information based on objective data

COACH (C)

- Creates a behavioral learning environment
- Trains the Active Experimenter most effectively
- Allows learners to evaluate their own progress
- Involves trainees in activities, discussions
- Encourages experimentation with practical application
- Puts trainees in touch with one another
- Draws on the strengths of the group
- Uses trainees as resources
- Helps trainees to verbalize what they already know
- Acts as facilitator to make the experience more comfortable and meaningful
- Is clearly in charge
- Uses activities, projects, and problems based on real life
- Encourages active participation

Reproduced from
The 1986 Annual:
Developing Human Resources
J. William Pfeiffer and Leonard D. Goodstein, Editors
San Diego, California: University Associates, 1986



The Trainer Type Inventory describes four training approaches, categorized as "Listener," "Director," "Interpreter," or "Coach." The Listener trains the Concrete Experienter most effectively and is very comfortable in the activity and publishing steps of the Experiential Learning Cycle. The Director obtains the best results from the Reflective Observer and usually is very comfortable during step 3, processing (particularly in helping trainees to make the transition from "How do I feel about this?" to "Now what?"). The Interpreter trains in the style favored by the Abstract Conceptualizer (step 4, generalizing), and the Coach trains in the style favored by the Active Experimenter (step 5, applying). These relationships are indicated in Table 1.

Table 1. A Comparison of Trainer Types

	L Listener	D Director	I Interpreter	C Coach
Learning Environment	Affective	Perceptual	Symbolic	Behavioral
Dominant Learning Style	Concrete Experienter	Reflective Observer	Abstract Conceptualizer	Active Experimenter
Means of Evaluation	Immediate personal feedback	Discipline based; External criteria	Objective criteria	Learner's own judgment
Means of Learning	Free expression of personal needs	New ways of seeing things	Memorization; knowing terms and rules	Discussion with peers
Instructional Techniques	Real-life applications	Lectures	Case studies, theory, reading	Activities, homework, problems
Contact with Learners	Self-directed; Autonomous	Little participation	Opportunity to think alone	Active participation
Focus	"Here and now"	"How and why"	"There and then"	"What and how"
Transfer of Learning	People	Images	Symbols	Actions
Sensory Perception	Touching	Seeing and hearing	Perceiving	Motor skills

LEARNING STYLES
WHAT ARE THEY?

(40)

- People learn in different ways

1. Perceive

- ✓ Sense and feel: concrete reality
- ✓ Think: abstract reasoning

2. Process

How we make it part of ourselves

- ✓ Active: jump right in and try it
- ✓ Reflective: watch what's happening, reflect on it

BRAIN DOMINANCE
IT'S TIME TO TEACH BOTH

LEFT

RIGHT

TRADITIONAL	HUMANISTIC
INTELLECT	INTUITION
MIND	HEART
CONTENT CENTERED	STUDENT CENTERED
LECTURE	INTERACTION
SHOW THEM HOW	LET THEM TRY IT
MEMORIZE	QUESTION THE EXPERTS
GIVE ANSWERS	ASK BETTER QUESTIONS
TRAIN THEIR MINDS	VALUE RESPONSES FROM THEIR HEARTS
SOLVE PROBLEMS	FIND PROBLEMS
TRAIN THE INTELLECT	DEVELOP THE IMAGINATION
HOLD ON TO OUR BEST TRADITIONAL TECHNIQUES	ADD NEW TECHNIQUES
TEACH THEM THE BEST CIVILIZATION HAS TO OFFER	GIVE THEM THE COURAGE AND CONFIDENCE TO ADAPT AND GROW

LEARNER TYPES

Name	Primarily Interested In	Prefer to Learn	Trainers/Teachers Need to
1. Innovative (Diverger)	Personal Meaning	Through a Combination of Sensing/Feeling & Watching	Give Them a Reason
2. Analytic (Assimilator)	The Facts	Through a Combination of Watching & Thinking Through Concepts	Give Them the Facts
3. Common Sense (Converger)	How Things Work	By Thinking Through Concepts, & Trying Things Out For Themselves, By Doing	Let Them Try It
4. Dynamic (Accommodator)	Self-Discovery	By Doing & Sensing/ Feeling	Let Them Teach It to Themselves & Others

Trainers/Teachers need the versatility of Listening, Directing, Interpreting and Coaching.

ADULT LEARNING

— AN INTERNAL PROCESS —

One of the clearest statements of this insight about adult learning was made in 1926 by the great American pioneer adult-education theorist, Eduard C. Lindeman:

I am conceiving adult education in terms of a new technique for learning, a technique as essential to the college graduate as to the unlettered manual worker. It represents a process by which the adult learns to become aware of and to evaluate his experience. To do this he cannot begin by studying "subjects" in the hope that some day this information will be useful. On the contrary, he begins by giving attention to situations in which he finds himself, to problems which include obstacles to his self-fulfillment. Facts and information from the differentiated spheres of knowledge are used, not for the purpose of accumulation, but because of need in solving problems. In this process the teacher finds a new function. He is no longer the oracle who speaks from the platform of authority, but rather the guide, the pointer-out who also participates in learning in proportion to the vitality and relevancy of his facts and experiences. In short, my conception of adult education is this: a cooperative venture in nonauthoritarian, informal learning, the chief purpose of which is to discover the meaning of experience; a quest of the mind which digs down to the roots of the preconceptions which formulate our conduct; a technique of learning for adults which makes education coterminous with life and hence elevates living itself to the level of adventurous experiment.¹⁰

¹⁰Robert Gessner (ed.), *The Democratic Man: Selected Writings of Eduard C. Lindeman* (Boston: Beacon Press, 1956), p. 160. By permission.

AN ARTISTIC APPROACH TO EDUCATIONAL DESIGN

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To design adult learning experiences that are truly creative, it may be helpful to borrow some ideas from the realm of art. Once needs and objectives have been clarified, it is a real challenge to combine them into a learning design that is artistically and esthetically satisfying to the learners. Artistic concerns that seem to have relevance for educational design can be seen in the following diagram:

<u>Artistic Form</u>	<u>Art Application</u>	<u>Education Application</u>
Line	Direction and continuity	Planning activity choices
Space	Length, width, depth, dimension and relation	Program dimensions and limits
Tone	Shading, emphasis, balance	Program emphasis, climate, orientation
Color	Hue, intensity, brightness, warmth, etc.	Energy level, enthusiasm, interest level
Texture	Feeling, web, material consistency	Program content, subject matter
Rhythm	Motion, Timing	Flow of events, pace, liveliness
Harmony	Relationship, balance, interconnection	Group activity, interpersonal relations
Variation	Repetition with change	Repeating learning experiences at successively deeper levels
Opposition	Diversity, contrast	Design elements juxtaposed. Comparing
Transition	Phasing, thematic development	Movement from one design component to another

There are an infinite number of combinations of the above elements. Forming educational activities into a cohesive, intelligible and satisfying design is much preferable to allowing them to be presented as a disconnected hodgepodge of events. Careful consideration of these artistic principles while designing, and practice in applying them to adult learning, can help you to develop your own artistic technique as an arranger and conductor of interesting and absorbing adult educational activities. It stands to reason that creative and interesting designs will cause more involvement and result in more learning.

FORMATS, DEVICES AND SKILLS FOR GROUP LEARNING

The term *format* as used in this guide, refers to the ordering or grouping of learners in an educational setting. The term *devices* is used as a descriptive term for the many different educational techniques, methods and products (equipment) used in educational design. *Skills* refers to the capability of the trainer or educator in combining the various formats and devices into effective learning activities. The purpose of this section is to simply list various formats and devices that can be combined in any educational setting. There are many formats, devices and skills that a trainer may utilize, and combining them offers an almost unlimited range of options. The list below, while certainly incomplete, serves to illustrate the variety of options available:

<u>Formats for Learning</u>	<u>Educational Devices</u>	<u>Trainer Skills</u>
Individual Study	Books, Magazines	General Linguistic
Small Groups	Pictures	Ability in both
Meetings	Film 8mm or 16mm	Speaking and
Clubs	Slides	Writing
Action Projects	Tape-recording	Audiovisual Equip-
Workshops	Records	ment Technique
Demonstrations	Film Strips	Group Process Skills
Conferences	Video-Recordings	Graphic Arts Skills
Courses	Easel - Flip Chart	Educational Design
Trips and Tours	Flannel Board	Skills
Community Relations	Posters and Signs	Skills in Applied
Programs	Chalk or Cork Board	Andragogy
Large Meetings	Lectures	Skill in Lecturing
Creativity Sessions	Multimedia.	Ability to arrange
Exhibits, Fairs,	Environments	and Conduct Meetings
Festivals	Laboratory Methods	and Conferences
Conventions	Process Groups	Community Action
Traveling Road	Buzz Groups	Skills
Shows	Brainstorming	Organizational Develop-
	Simulation	ment Skills
	Games	Process Consulting
	Role Play	Capability
	Nonverbals	Management and
	Case Study	Administrative
	Critical Incident	Skill
	Teaching/Learning	
	Teams	

The above lists offer enough options for a lifetime of exploration and continuing development of capability. A trainer then, need never consider himself competent or incompetent in an absolute sense, but rather as one who is on the way toward developing greater competence through continuous deepening of experience.

Components (Activity Units) of Learning-Design Models

A learning-design model is shaped by the arrangement of various types of activity units—the building blocks of educational architecture—in a pattern prescribed by the theme or process of the model. In keeping with the architectural analogy, this approach to the designing of learning is akin to the architectural doctrine that “form follows function.”

The following six types of activity units are available to model designers:

1. *General sessions.* Meetings of all participants as a whole, with a variety of patterns of platform presentation and audience participation as described under “Large Meetings” in Chapter 8.
2. *Small groups* of various sizes and for a variety of purposes, including:
 - Topical discussion groups:* groups organized for the purpose of reacting to, testing the meaning of, or sharing ideas about informational inputs from reading or speakers on given topics;
 - Laboratory groups:* groups organized for the purpose of analyzing group behavior, experimenting with new behavior, and sharing feedback regarding the effects of various behaviors;
 - Special-interest groups:* groups organized according to categories of interests of participants for the purpose of sharing experiences and exploring common concerns;
 - Problem-solving groups:* groups organized to develop solutions to procedural or substantive problems of concern to the total assembly;
 - Planning groups:* groups organized to develop plans for activities within the design or for back-home application;
 - Instructional groups:* groups organized to receive instruction through the services of resource experts in specialized areas of knowledge, understanding, or skill;
 - Inquiry groups:* groups organized to search out information and report their findings to the total assembly;
 - Evaluation groups:* groups organized for the purpose of developing proposals for evaluating the results of the activity for the approval of the total assembly and perhaps executing the approved plans;
 - Skill practice groups:* groups organized for the purpose of practicing specified categories of skills;
 - Consultative groups:* groups organized for the purpose of giving consultative help to one another;
 - Operational groups:* groups organized for the purpose of carrying responsibilities for the operation of the activity, such as room arrangements, refreshments, materials preparation, equipment operation, etc.;
 - Learning-teaching teams:* groups which take responsibility for learning all they can about a content unit and sharing what they have learned with the total assembly;
 - Dyads:* two-person groups organized to share experiences, coach each other, plan strategies, or help each other in any other way;
 - Triads:* three-person groups organized for mutually helpful purposes;
 - Buzz groups:* randomly organized groups of three or four persons that meet in a general assembly to pool problems, ideas, or reactions and report them through a spokesman to the assembly.
3. *Individual consultation, counseling, or directed study:* in which the services of resource persons are made available to individual participants for personalized help.
4. *Reading:* the scheduling of special times (between meetings) for reading handout materials or a selection of references.
5. *Recreation, worship, or meditation:* periods of time set aside for socialization, religious activity, or creative solitude.
6. *Preparatory activity:* things the participants are invited to do before the learning activity starts, such as reading, self-analysis, data collection, etc.

LESSON PLAN

COURSE TITLE: _____

LENGTH: _____

SUBJECT AREA: _____

PURPOSE:

ACTIVITY:

GOAL:

CONCEPT/SKILL:

EVALUATION:

OBJECTIVE:

MATERIALS:

FORMAL FOR
INVOLVING THE LEARNING COMMUNITY

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Process Steps

Content

Climate Setting

Mutual Planning on
Needs and Training
Objectives with
Participants

The specific subject
matter, problem or
issue your group is
concerned with.

Design (for experience)

Evaluation 1 - Involving
Participants

Evaluation 2 - A Private
Reassessment by your own
Design Team at Conclusion

An Artistic Approach to Educational Design

To design adult learning experiences that are truly creative, it may be helpful to borrow some ideas from the realm of art. Once needs and objectives have been clarified, it is a real challenge to combine them into a learning design that deeply involves the learners and is artistically as well as esthetically satisfying to the learners. Following are ten artistic concerns that have relevance for educational design. Please mark (✓) each of the following items where appropriate and cite instances in the blank spaces provided.

TO WHAT EXTENT DID THE DESIGN INCLUDE TRULY CREATIVE:

<u>ARTISTIC FORM</u>	<u>ART APPRECIATION</u>	<u>EDUCATIONAL APPLICATION</u>	<u>LO</u>						<u>HI</u>	<u>CITE</u>
1. Line	Direction and Continuity	Planning Activity Choices	0	1	2	3	4	5		
2. Space	Length, Width, Depth, Dimension, and Relation	Program Dimensions and Limits	0	1	2	3	4	5		
3. Tone	Shading, Emphasis, Balance	Program Emphasis, Climate, Orientation	0	1	2	3	4	5		
4. Color	Hue, Intensity, Brightness, Warmth, etc.	Energy level, Enthusiasm, Interest Level	0	1	2	3	4	5		
5. Texture	Feeling, Web, Material Consistency	Program Content, Subject Matter, Substance	0	1	2	3	4	5		
6. Rhythm	Motion, Timing	Flow of Events, Pace, Liveliness	0	1	2	3	4	5		
7. Harmony	Relationship, Balance, Interconnection	Group Activity, Interpersonal Relations	0	1	2	3	4	5		
8. Variation	Repetition with Change	Repeating Learning Experiences at Successively Deeper Levels	0	1	2	3	4	5		
9. Opposition	Diversity, Contrast	Design Elements Juxtaposed, Comparing	0	1	2	3	4	5		
10. Transition	Phasing, Thematic Development	Movement from One Design Component to Another	0	1	2	3	4	5		

- AN ASSESSMENT AND FEEDBACK INSTRUMENT -

ART PRINCIPLES APPLIED TO THE DESIGN OF ADULT EDUCATION INCLUDE

- | | | |
|---------|-----------|--------------|
| - LINE | - TEXTURE | - VARIATION |
| - SPACE | - RHYTHM | - OPPOSITION |
| - TONE | - HARMONY | - TRANSITION |
| - COLOR | | |

A learning-design model is a projection of the flow of events for accomplishing the objectives of the learning experience. There are six major components of a learning model. Please mark () each of the following items where appropriate and cite instances on the blank spaces provided.

TO WHAT EXTENT DID THIS DESIGN INCLUDE:

	<u>LO</u>						<u>HI</u>	<u>CITE</u>
1. General Sessions	0	1	2	3	4	5		
2. Small Groups	0	1	2	3	4	5		
a. Topical Discussion Groups	0	1	2	3	4	5		
b. Laboratory Groups	0	1	2	3	4	5		
c. Special Interest Groups	0	1	2	3	4	5		
d. Problem-Solving Groups	0	1	2	3	4	5		
e. Planning Groups	0	1	2	3	4	5		
f. Instructional Groups	0	1	2	3	4	5		
g. Inquiry Groups	0	1	2	3	4	5		
h. Evaluation Groups	0	1	2	3	4	5		
i. Skill Practice Groups	0	1	2	3	4	5		
j. Consultative Groups	0	1	2	3	4	5		
k. Operational Groups	0	1	2	3	4	5		
l. Learning-Teaching Teams	0	1	2	3	4	5		
m. Dyads	0	1	2	3	4	5		
n. Triads	0	1	2	3	4	5		
o. Buzz Groups	0	1	2	3	4	5		
3. Individual Consultation, Counseling, Directed Study	0	1	2	3	4	5		
4. Reading	0	1	2	3	4	5		
5. Recreation, Worship, Meditation	0	1	2	3	4	5		
6. Preparatory Activity	0	1	2	3	4	5		

- AN ASSESSMENT AND FEEDBACK INSTRUMENT -
TRAINER'S PROCESS PLAN

The trainer's process plan focuses on implementation of the adult learning characteristics in the learning experience. Please mark (✓) each of the following items where appropriate and cite instances on the blank spaces provided which substantiate your assessment of each item.

TO WHAT EXTENT DID THIS DESIGN
INCLUDE:

	<u>LO</u>	<u>HI</u>	<u>CITE</u>
At the opening session:			
1. The trainer's introduction of her/himself, description of her/his role her /his special resources and limitations, her/his availability for consultations, etc.	0 1 2 3 4 5		_____
2. Procedures the trainer will use to engage participants in becoming acquainted with one another in terms of their work experience, resources, interests.	0 1 2 3 4 5		_____
3. Other procedures to be used by the trainer to establish a climate of mutual respect, collaborativeness rather than competitiveness, informality, security, warmth of participants relationship with trainer, supportiveness, etc.	0 1 2 3 4 5		_____
4. How the trainer will engage participants in examining, clarifying, and influencing the objectives of the program.	0 1 2 3 4 5		_____
5. How the trainer will acquaint the participants with her/his plan of work for the program and their responsibilities in it.	0 1 2 3 4 5		_____
6. How the trainer will help the participants prepare to carry the responsibilities she/he expects of them.	0 1 2 3 4 5		_____
7. How the trainer will acquaint the participants with the resources (material and human) available to them for accomplishing their learning objectives.	0 1 2 3 4 5		_____

	<u>LO</u>	<u>HI</u>	<u>CITE</u>
8. What learning activities the trainer will suggest the participants engage in between the first and the second sessions.	0 1 2 3 4 5		
9. What physical arrangement of the meeting room the trainer prefers to facilitate interaction among the participants and between them and her/himself.	0 1 2 3 4 5		
TO WHAT EXTENT DID THIS DESIGN INCLUDE:			
In subsequent sessions:			
1. How the trainer will engage the participants in diagnosing their individual and collective needs and interests regarding the content of the program.	0 1 2 3 4 5		
2. How the trainer will engage the participants in formulating learning objectives based on their diagnosed needs and interests.	0 1 2 3 4 5		
3. The specific learning strategies (methods, techniques, devices, materials, etc.) the trainer proposes to use in this program.	0 1 2 3 4 5		
4. How the participants will be involved in selecting and participating in these strategies.	0 1 2 3 4 5		
5. The procedures and tools the trainer will use for helping participants assess their progress toward their objectives.	0 1 2 3 4 5		
6. The procedures and tools the trainer will use for evaluating learning outcomes at the end of the program.	0 1 2 3 4 5		
7. How evaluation of the participants' performance be arrived at.	0 1 2 3 4 5		
8. The procedures and tools the trainer will use for getting feedback from the participants periodically and at the end regarding the quality of this learning experience.	0 1 2 3 4 5		
9. The content the trainer expects to be acquired through this program (including knowledge, understanding, skills, attitudes, and values.	0 1 2 3 4 5		

- AN ASSESSMENT AND FEEDBACK INSTRUMENT -
COMPETENCIES FOR THE ROLE OF ADULT EDUCATOR/TRAINER

These competencies present a comprehensive picture of what kind of performance it takes to function as a program designer/trainer. Please mark (✓) each of the following items where appropriate and cite illustrations on the blank spaces provided which support your assessment of each item.

TO WHAT EXTENT DOES THIS DESIGN CLEARLY
DISPLAY THE PROGRAM DESIGNER/TRAINER AS:

	<u>LO</u>						<u>HI</u>	<u>CITE</u>
1. Constructing a Wide Variety of Program Designs to Meet the Needs of various situations (basic skills training, supervisory and management development, organization development etc.).	0	1	2	3	4	5		_____
2. Designing programs with a creative variety of formats, activities, schedules resources, and evaluative procedures.	0	1	2	3	4	5		_____
3. Using needs assessments, census data, organizational records, surveys, etc., in adapting programs to specific needs and clientele.	0	1	2	3	4	5		_____
4. Develop and carrying out a plan for program evaluation	0	1	2	3	4	5		_____
5. Knowing how adults acquire and use knowledge, skills, and attitudes.	0	1	2	3	4	5		_____
6. Selecting and using audio/visual hardware and software.	0	1	2	3	4	5		_____
7. Identifying the knowledge and skill requirements of jobs, tasks, roles, etc.	0	1	2	3	4	5		_____
8. Understanding and being able to use computers.	0	1	2	3	4	5		_____
9. Recognizing, exploring and using a broad range of ideas and practices by thinking logically and creatively without undue influence from personal biases.	0	1	2	3	4	5		_____
10. Building models from theoretical or practical frameworks which describe complex ideas in understandable, usable ways.	0	1	2	3	4	5		_____

	<u>LO</u>					<u>HI</u>	<u>CITE</u>
11. Preparing clear objectives statements which describe desired outputs.	0	1	2	3	4	5	_____
12. Seeing organizations as dynamic, political, economic, and social systems which have multiple goals; using this framework for understanding and influencing events.	0	1	2	3	4	5	_____
13. Knowing the techniques and methods used in training and understanding their appropriate uses.	0	1	2	3	4	5	_____
14. Scanning, synthesizing, and drawing conclusions from data relevant to the course.	0	1	2	3	4	5	_____
15. Communicating opinions, observations and conclusions such that they are understood.	0	1	2	3	4	5	_____
16. Finding key concepts and variables that define a client's operation.	0	1	2	3	4	5	_____
17. Gathering information from printed and other recorded sources. Identifying and using information specialists and reference services and aids.	0	1	2	3	4	5	_____
18. Verbally presenting information or programs to clients such that the intended purpose is achieved.	0	1	2	3	4	5	_____
19. Gathering information from and stimulating insight in individuals and groups through the use of interviews, questionnaires, and other probing methods.	0	1	2	3	4	5	_____
20. Projecting trends and visualizing possible and probable futures and their implications.	0	1	2	3	4	5	_____
21. Selecting, developing and using methodologies, statistical and data collection techniques for a formal inquiry.	0	1	2	3	4	5	_____
22. Using group process skills to influence groups to both accomplish tasks and fulfill the needs of their members.	0	1	2	3	4	5	_____

23. Adjusting your behavior in order to
establish relationships across a
broad range of people and groups.

LO

HI

CITE

0 1 2 3 4 5

- AN ASSESSMENT AND FEEDBACK FORM -
LEARNING STYLES

"Learning Style" is a unique way each individual gathers/receives and processes information. By understanding these differences and taking them into consideration when designing any type of educational program, you can have more effective learning outcomes, more positive learner participation, and reduce training time. It is important to include each learning style in the design. Please mark (✓) each of the following items where appropriate and cite instances/anecdotes on the blank spaces provided which support your assessment of each item.

TO WHAT EXTENT DOES THIS DESIGN GIVE
OPPORTUNITY TO THE INNOVATIVE/DIVERGER
LEARNER TO:

	<u>LO</u>						<u>HI</u>	<u>CITE</u>
1. Seek Meaning	0	1	2	3	4	5		_____
2. Be Involved Personally	0	1	2	3	4	5		_____
3. Listen and Share Ideas	0	1	2	3	4	5		_____
4. "Brainstorm"	0	1	2	3	4	5		_____
5. Absorb Reality	0	1	2	3	4	5		_____
6. Show Interest in People	0	1	2	3	4	5		_____
7. Find Broad, Cultural Interests	0	1	2	3	4	5		_____
8. Think Divergently	0	1	2	3	4	5		_____
9. Give Expression to Their Own Experience	0	1	2	3	4	5		_____
10. View Complex, Concrete Situations From Many Perspectives	0	1	2	3	4	5		_____
11. Model Themselves on Those They Respect	0	1	2	3	4	5		_____
12. Interact Socially	0	1	2	3	4	5		_____
13. Show Innovation and Imagination	0	1	2	3	4	5		_____
14. Involve Themselves in Important Issues	0	1	2	3	4	5		_____
15. Bring Unity in Diversity	0	1	2	3	4	5		_____
16. Ask "Why or Why Not?" Questions	0	1	2	3	4	5		_____
17. Perceive Information Concretely and Process It Reflectively	0	1	2	3	4	5		_____

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TO WHAT EXTENT DOES THIS DESIGN GIVE
OPPORTUNITY TO THE ANALYTIC/ASSIMILATOR
LEARNER TO:

1. Seek Facts	0	1	2	3	4	5	_____
2. Know What the Experts Think	0	1	2	3	4	5	_____
3. Think Through Ideas	0	1	2	3	4	5	_____
4. Create Theoretical Models and Reason Inductively	0	1	2	3	4	5	_____
5. Show Interest in Ideas & Concepts	0	1	2	3	4	5	_____
6. Critique Information and Collect Data	0	1	2	3	4	5	_____
7. Be Thorough and Industrious	0	1	2	3	4	5	_____
8. Use Theories Practically	0	1	2	3	4	5	_____
9. Find Out If a Theory is Logically Sound	0	1	2	3	4	5	_____
10. Reexamine Facts If Situations Perplex Them or The Theory Doesn't Fit The Facts	0	1	2	3	4	5	_____
11. Adapt to Experts	0	1	2	3	4	5	_____
12. Experience Tradition Like Learning	0	1	2	3	4	5	_____
13. Create Concepts and Models	0	1	2	3	4	5	_____
14. Experience Self-Satisfaction and Intellectual Recognition	0	1	2	3	4	5	_____
15. Ask "What?" Questions	0	1	2	3	4	5	_____
16. Perceive Information Abstractly and Process It Reflectively	0	1	2	3	4	5	_____

TO WHAT EXTENT DOES THIS DESIGN GIVE OPPOR-
TUNITY TO COMMON SENSE/CONVERGER LEARNER TO:

1. Seek Usability	0	1	2	3	4	5	_____
2. Know How Things Work	0	1	2	3	4	5	_____
3. Test Theories in Ways That Seem Sensible	0	1	2	3	4	5	_____
4. Edit Reality	0	1	2	3	4	5	_____

	<u>LO</u>						<u>HI</u>	<u>CITE</u>
5. Use Factual Data to Build Designed Concepts	0	1	2	3	4	5		
6. Practically Apply Ideas	0	1	2	3	4	5		
7. Have Hands-On Experiences	0	1	2	3	4	5		
8. Enjoy Solving Problems	0	1	2	3	4	5		
9. Find Their Own Answers	0	1	2	3	4	5		
10. Judge Some Concrete Things	0	1	2	3	4	5		
11. Gain Tolerance Toward "Fuzzy" Ideas	0	1	2	3	4	5		
12. Focus Their Knowledge on Specific Problems Through Hypothetical Deductive Reasoning	0	1	2	3	4	5		
13. Remain Relative Unemotional	0	1	2	3	4	5		
14. Work with "Things" Rather Than People	0	1	2	3	4	5		
15. Find a Technical Interest	0	1	2	3	4	5		
16. Find Out How Things They Are Asked To Do Will Help in "Real Life"	0	1	2	3	4	5		
17. Draw Inferences from Sensory Experiences	0	1	2	3	4	5		
18. Practically Apply Ideas	0	1	2	3	4	5		
19. Bring Their View of Present in Line With Future Security	0	1	2	3	4	5		
20. Ask "How Does This Work?" Questions	0	1	2	3	4	5		
21. Perceive Information Abstractly and Process It Actively	0	1	2	3	4	5		
TO WHAT EXTENT DOES THIS DESIGN GIVE OPPORTUNITY TO THE DYNAMIC/ACCOMODATOR LEARNER TO:								
1. Seek Hidden Possibilities	0	1	2	3	4	5		
2. Know What Can Be Done With Things	0	1	2	3	4	5		
3. Self-Discover, Learn by Trial and Error	0	1	2	3	4	5		
4. Enrich Reality	0	1	2	3	4	5		

	<u>LO</u>					<u>HI</u>	<u>CITE</u>
5. Adapt to Change and Relish It	0	1	2	3	4	5	_____
6. Experience variety	0	1	2	3	4	5	_____
7. Be In Situations Calling For Flexibility	0	1	2	3	4	5	_____
8. Adapt to Specific Immediate Circumstances	0	1	2	3	4	5	_____
9. Discard His Plan or Theoretical Explanation If It Doesn't Fit The Situation	0	1	2	3	4	5	_____
10. Take Risks	0	1	2	3	4	5	_____
11. Be At Ease With People	0	1	2	3	4	5	_____
12. Not Be Seen As Pushy	0	1	2	3	4	5	_____
13. Reach Accurate Conclusions in the Absence of Logical Justification	0	1	2	3	4	5	_____
14. Act and Test Experience	0	1	2	3	4	5	_____
15. Do Things	0	1	2	3	4	5	_____
16. Act and Involve Her/Himself In New Experiences	0	1	2	3	4	5	_____
17. Carry Out Plans	0	1	2	3	4	5	_____
18. Make Things Happen	0	1	2	3	4	5	_____
19. Bring Action to Concepts	0	1	2	3	4	5	_____
20. Ask "What Can This Become?" Questions	0	1	2	3	4	5	_____
21. Perceive Information Concretely and Process It Actively	0	1	2	3	4	5	_____

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AN ASSESSMENT AND FEEDBACK FORM
TRAINER TYPE INVENTORY (TTI)

Each of the four training styles identified by the TTI is characterized by a training approach, way of present content, and relationship between the trainer and the participants. Balance of all four types is necessary for trainers, for them to be able to lead participants skillfully through all aspects of the learning cycle. Please mark (✓) each of the following items where appropriate and cite instances on the blank spaces provided which illustrate your assessment of each item.

TO WHAT EXTENT DID THIS DESIGN DEPICT
 THE TRAINER:

	<u>LO</u>		<u>HI</u>	<u>CITE</u>			
I. <u>Listener</u> - Trains the concrete experiencer most effectively							
1. Creating An Affective Learning Environment	0	1	2	3	4	5	_____
2. Encouraging Learners to Express Personal Needs Freely	0	1	2	3	4	5	_____
3. Assuring That Everyone is Heard	0	1	2	3	4	5	_____
4. Showing Awareness of Individual Group Members	0	1	2	3	4	5	_____
5. Reading Nonverbal Behavior	0	1	2	3	4	5	_____
6. Preferring That Participants Talk More Than the Trainer	0	1	2	3	4	5	_____
7. Wanting Learners to be Self- Directed and Autonomous	0	1	2	3	4	5	_____
8. Exposing Her/His Own Emotions and Experiences	0	1	2	3	4	5	_____
9. Showing Empathy	0	1	2	3	4	5	_____
10. Feeling Comfortable With All Types of Expressions (Words, Gestures, Hugs, Music, Art, Etc.)	0	1	2	3	4	5	_____
11. <u>Not</u> "Worrying" About the Training	0	1	2	3	4	5	_____
12. Staying in the "Here-And-Now"	0	1	2	3	4	5	_____
13. Being Practical ("Going With the Flow")	0	1	2	3	4	5	_____
14. Appearing Relaxed and Unhurried	0	1	2	3	4	5	_____

TO WHAT EXTENT DID THE DESIGN DEPICT
THE TRAINER:

II. DIRECTOR - Trains the Reflective
Observer Most Effectively

	<u>LO</u>					<u>HI</u>	<u>CITE</u>
1. Creating a Perceptual Learning Environment	0	1	2	3	4	5	_____
2. Taking Charge	0	1	2	3	4	5	_____
3. Giving Directions	0	1	2	3	4	5	_____
4. Preparing Notes and Outlines	0	1	2	3	4	5	_____
5. Appearing Self-Confident	0	1	2	3	4	5	_____
6. Being Well Organized	0	1	2	3	4	5	_____
7. Evaluating With Objective Criteria	0	1	2	3	4	5	_____
8. Being the Final Judge of What Is Learned	0	1	2	3	4	5	_____
9. Using Lectures	0	1	2	3	4	5	_____
10. Being Conscientious (Sticking to the Announced Agenda)	0	1	2	3	4	5	_____
11. Concentrating on a Single Item At a Time	0	1	2	3	4	5	_____
12. Telling Participants What To Do	0	1	2	3	4	5	_____
13. Being Conscious of the Time	0	1	2	3	4	5	_____
14. Developing Contingency Plans	0	1	2	3	4	5	_____
15. Providing Examples	0	1	2	3	4	5	_____
16. Limiting and Controlling Participation	0	1	2	3	4	5	_____

TO WHAT EXTENT DID THE DESIGN DEPICT THE
TRAINER:

III. Interpreter - Trains the Abstract
Conceptualizer Most Effectively

1. Creating a Symbolic Learning Environment	0	1	2	3	4	5	_____
---------------------------------------------	---	---	---	---	---	---	-------

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	<u>LO</u>						<u>HI</u>	<u>CITE</u>
2. Encouraging Learners to Memorize and Master Terms and Rules	0	1	2	3	4	5		_____
3. Making Connections (Ties the Past to the Present, is Concerned With the Flow of the Training Design)	0	1	2	3	4	5		_____
4. Integrating Theories and Events	0	1	2	3	4	5		_____
5. Separating Self From Learners, Observes	0	1	2	3	4	5		_____
6. Sharing Ideas, But Not Feelings	0	1	2	3	4	5		_____
7. Acknowledging Others' Interpretations as Well as Own	0	1	2	3	4	5		_____
8. Using Theory as a Foundation	0	1	2	3	4	5		_____
9. Encouraging Generalizations	0	1	2	3	4	5		_____
10. Presenting Well-Constructed Interpretations	0	1	2	3	4	5		_____
11. Listening for Thoughts, Often Overlooking Emotions	0	1	2	3	4	5		_____
12. Wanting Participant to Have a Thorough Understanding of Facts, Terminology	0	1	2	3	4	5		_____
13. Using Case Studies, Lectures, Readings	0	1	2	3	4	5		_____
14. Encouraging Learners to Think Independently	0	1	2	3	4	5		_____
15. Providing Information Based on Objective Data	0	1	2	3	4	5		_____

TO WHAT EXTENT DID THIS DESIGN DEPICT THE TRAINER:

IV. Coach - Trains the Active Experimenter Most Effectively

1. Creating a Behavioral Learning Environment	0	1	2	3	4	5		_____
2. Allowing Learners to Evaluate Their Own Progress	0	1	2	3	4	5		_____
3. Involving Participants in Activities, Discussions	0	1	2	3	4	5		_____

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	<u>LO</u>						<u>HI</u>	<u>CITE</u>
4. Encouraging Experimentation With Practical Application	0	1	2	3	4	5		_____
5. Putting Participants in Touch With One Another	0	1	2	3	4	5		_____
6. Drawing on the Strengths of the Group	0	1	2	3	4	5		_____
7. Using Participants as Resources	0	1	2	3	4	5		_____
8. Helping Participants to Verbalize Why They Already Know	0	1	2	3	4	5		_____
9. Acting as Facilitator to Make the Experience More Comfortable and Meaningful	0	1	2	3	4	5		_____
10. Being Clearly in Charge	0	1	2	3	4	5		_____
11. Using Activities, Projects, and Problems Based on Real Life	0	1	2	3	4	5		_____
12. Encouraging Active Participation	0	1	2	3	4	5		_____

Different Methods Accomplish Different Objectives

The techniques listed below can make contributions toward the objectives under which the bullet appears.

Techniques	Psychomotor Skills	Knowledge	Attitudes & Values	Interpersonal Skills	Managerial/Supervisory Skills	Organizational Development
Action Maze						
Assignments	•	•	•	•	•	•
Brainstorming			•	•	•	•
Buzzgroups	•		•	•	•	•
Case Method	•	•			•	•
Circulars (with Materials)		•		•	•	•
Clinic	•	•				
Colloquy		•			•	•
Conference	•	•	•		•	•
Critical Incident		•	•		•	•
Demonstration	•	•	•	•	•	•
Discussion	•	•	•	•	•	•
Displays & Exhibits (with Materials)	•	•			•	•
Field Trips	•	•				
Films (with Materials)	•	•	•	•	•	•
Forum		•	•	•	•	•
Games	•		•	•	•	•
Handouts (with Materials)		•				
Human Relations Laboratories			•	•	•	•
In-Baskets			•	•	•	•
Incident Process			•	•	•	
Job Instruction Training	•	•	•	•	•	
Learner Controlled Instruction	•	•	•	•	•	
Lecture		•	•		•	
Modelling					•	
Models (with Materials)	•	•				•
Newsletters (with Materials)		•				
Open Classroom	•	•	•	•	•	
Panel		•			•	
Programmed Instruction	•	•				
Question-Answer Sessions		•	•	•		
Related Reading		•	•	•		
Roleplaying	•	•	•	•	•	•
Seminar		•	•	•	•	•
Sensitivity Training			•	•	•	•
Simulations	•		•	•	•	•
Syllabus		•				
Symposium		•				
Syndicates	•		•	•	•	•
Tours	•	•		•	•	•
Videotape (with Materials)	•	•	•	•	•	•
Workshop	•	•		•	•	•

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an introduction to

HELPING ADULTS

LEARN

and

CHANGE

by

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"And it came to pass, that after three days they found him (Jesus) in the temple, sitting in the midst of the doctors, both hearing them, and asking them questions."

—Gospel of Luke

"All men by nature desire knowledge."

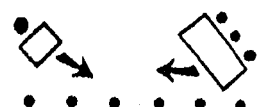
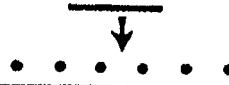
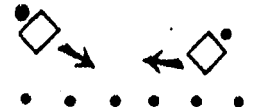
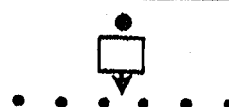
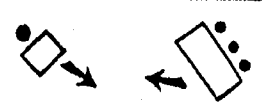
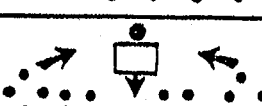
—Aristotle

"My thoughts are my company; I can bring them together, select them, detain them, dismiss them."

—Walter Savage Landor

B. Instructional Techniques to Impart Knowledge

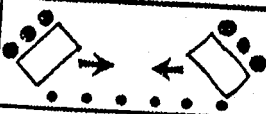
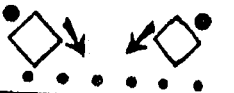


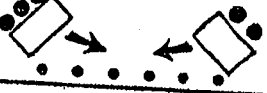

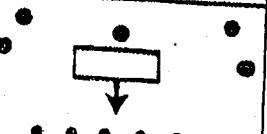
1. Techniques appropriate for ONE RESOURCE PERSON PRESENTATIONS to inform, give information, disseminate knowledge, develop understanding:

Technique	Description	Room Arrangement
Committee Hearing	Questioning of a resource person by a panel of interviewers for extemporaneous responses.	
Film	One-way organized presentation	
Interview	Questioning of a resource person by an individual on behalf of audience.	
Lecture, Speech	One-way organized formal presentation of information or point of view by resource person	
Lecture with Group Response Team (Audience Reaction Team)	Several group representatives interrupt resource person at appropriate times for immediate clarification of issues	
Screened Speech	Sub-groups develop questions they wish resource person to address extemporaneously	

"And Jesus went about all the cities and villages, teaching in their synagogues, and preaching the gospel of the kingdom..."

—Gospel of Matthew

2. Techniques appropriate for SEVERAL RESOURCE PERSON PRESENTATIONS to inform, give information, disseminate knowledge, develop understanding:

Technique	Description	Room Arrangement
Colloquy	Panels of 3 or 4 resource persons and 3 or 4 representatives of the audience discussing issue.	
Debate	Conflicting views stated by each resource person and clarified further by argument between them.	
Dialog	Informal, conversational discourse between 2 resource persons.	
Dramatic Presentation	Prepared play or skit to inform.	
Interrogator Panel	2 to 4 resource persons questioned by 2 to 4 interrogators.	
Panel Discussion	Panel of 4 to 7 resource persons carry on a discussion of an issue before an audience (informal discussion "overheard" by audience).	
Symposium	3 to 6 speeches or lectures presented in turn by resource persons on various phases of a single subject or problem.	

TECHNIQUES AND DEVICES

3. Techniques appropriate as FOLLOW-UPS to presentations of one or more resource persons to involve the audience:

Techniques	Description	Room Arrangement
Buzz Groups	Sub-groups of 4 to 6, with 4 to 6 minutes to discuss particular issue or question raised by resource person.	
Chain Reaction Forum	Sub-groups discuss presentation and formulate questions to be asked resource person.	
Forum	Free and open question/discussion period immediately following a lecture.	
Group Discussion	Sub-groups of 10-20 discuss problems or issues raised, for 15-30 minutes.	
Huddle Groups	Pairs or triads (2-3 persons/groups) discuss specific issue for 2 to 3 minutes.	
Listening Team	3-4 members in audience are designated to listen and raise questions after presentation.	
Question Period	Opportunity for any in audience to directly question speaker.	
Reaction Panel	Panel of 3 or 4 react to presentation by panel discussion.	
Reaction Symposium	3 or 4 persons in turn give their reaction to presentation.	
Screening Panel	3 or 4 persons screen questions raised by audience (on cards) before presenting questions to resource person.	

TECHNIQUES AND DEVICES

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C. Instructional Techniques to Teach a Skill

1. Techniques appropriate to teach a skill or change a behavior:

Techniques	Description
Case Study	Presentation of a problem or case for a small group to analyze and solve.
Demonstration	Instructor verbally explains and performs an act, procedure or process.
Games, Structured Experiences	Under leadership of instructor, learners participate in a "game" requiring particular skills.
Simulation	Learners learn skills in a setting that simulates the real setting where skills are required.
Teaching/Learning Team	Working cooperatively, small groups of 3—6 persons each teach and help each other develop skills.

2. Techniques appropriate for FOLLOW-UP and practice of skills:

Technique	Description
Application Projects	Performance contracts, check lists, specific exercises to apply learnings "back home."
Drill	Practice beyond the point needed for recall to produce automatic response.
Practice	Repeated performance of a skill under supervision of instructor, and then without supervision.

D. Instructional Techniques to Change Attitudes

1. Attitudes are most likely to be changed in a context of free and open discussion, in a climate of trust. In such a climate assumptions and attitudes can be examined with less threat and defensive behavior.
2. Techniques appropriate to change attitudes, values, opinions, feelings:

Technique	Description
Circle Response	Question posed to members of a group seated in a circle, each person in turn expressing a response.
Exercises, Structured Experiences	Planned activities in which learners participate, after which they discuss feelings and reactions.
Field Trips, Tours	Experiencing or viewing actual situations for first hand observation and study.
Games	Experiencing a game and discussing its application to real life.
Group Discussion	Circle face to face mutual exchange of ideas and opinions by members of small groups (8—20) on problem or issue of mutual concern for 10—40 minutes, depending on size of group.
Process Group (T-Groups, Laboratory Groups)	Circle of 8—12 people studying themselves in process of becoming and being a group.
Role Playing	Impromptu dramatization of a problem or situation, followed by discussion.
Sensitivity Group	Circle of 8—12 people helping each other through self-disclosure and feedback.
Simulation	Experience in a situation as near real as possible, followed by discussion.
Skit	Short rehearsed dramatic presentation, followed by discussion.
Values Clarification	Structured experiences designed to help learner examine values held

TECHNIQUES AND DEVICES

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3. Virtually every technique listed above requires **PROCESS TIME**, opportunity for learners to evaluate, discuss, and process the experience.

E. Instructional Techniques to Encourage Creativity

1. Techniques appropriate to encourage creativity, new ideas, thinking in new paths:

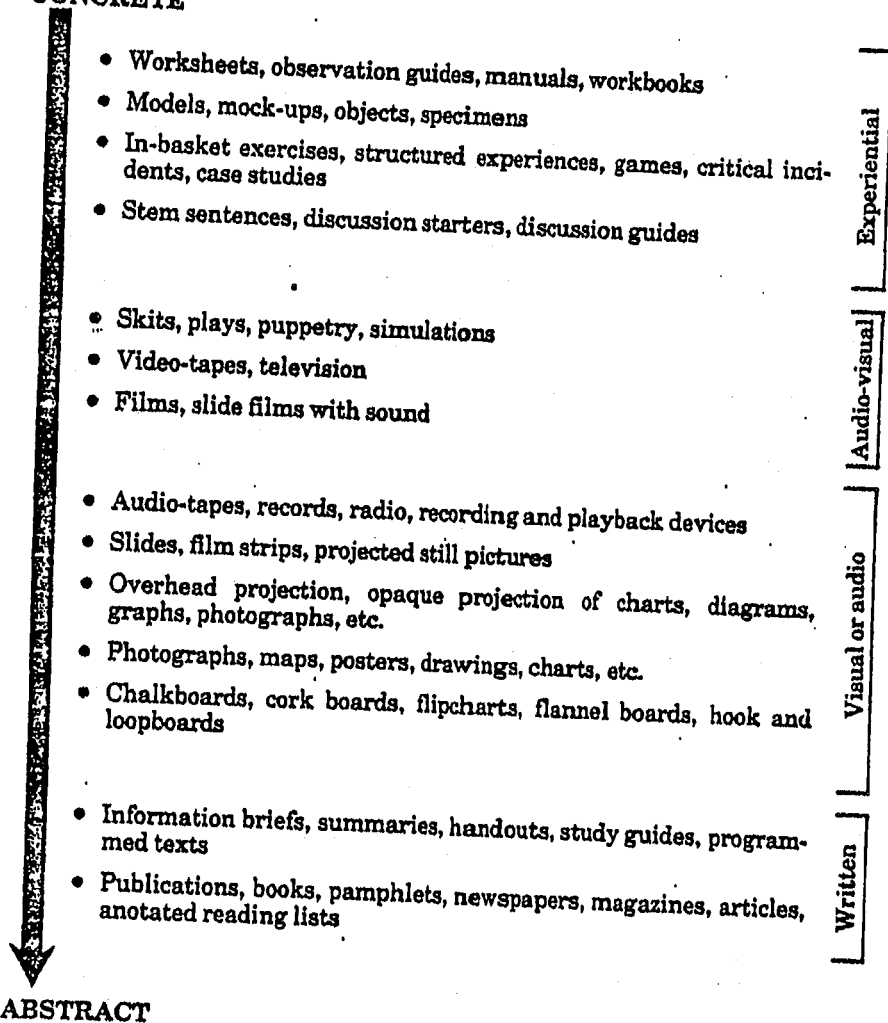
Technique	Description
Brainstorming (Ideation: Idea Inventory)	Free flowing and uninhibited sharing and listing of ideas by a group without evaluation or consideration of practicality; object is to generate as many creative ideas as possible.
Nominal Group Process (Delbecq Technique)	A specific procedure for a group of 5—8 people for maximum idea generation and narrowing the range of ideas: <ol style="list-style-type: none"> 1. Each person makes his own list of ideas (5—10 minutes) 2. Master list is made on newsprint in round robin fashion as each contributes one idea to list until <i>all</i> ideas are on master list (10—15 minutes) 3. Clarification (but not discussion) of items on master list (15 minutes) 4. Each person chooses 5 items from the master list without discussion (5 minutes) 5. Each person ranks 5 items and accords value points (5 for first, 4 for second, 3 for third, 2 for fourth, 1 for fifth) 6. "Votes" (value points) are recorded for each item on master list. 7. Ideas receiving the most points are discussed.
Quiet Meeting (Quaker Meeting)	15—60 minute period of reflection and limited verbal expression by group members; periods of silence and spontaneous verbal contributions.
Self-analysis and Reflection	Time allocated for personal reflection and opportunity to relax and examine learning alone.

F. Instructional Devices

1. There are many instructional devices (also called instructional aids or instructional materials) available today.
2. Below are grouped such devices from the most concrete and experiential, in directly involving the learner, to the more abstract, relying on verbal symbols (words) alone.
3. Note that audio-visual aids are *not* more effective than experiential devices.

INSTRUCTIONAL DEVICES

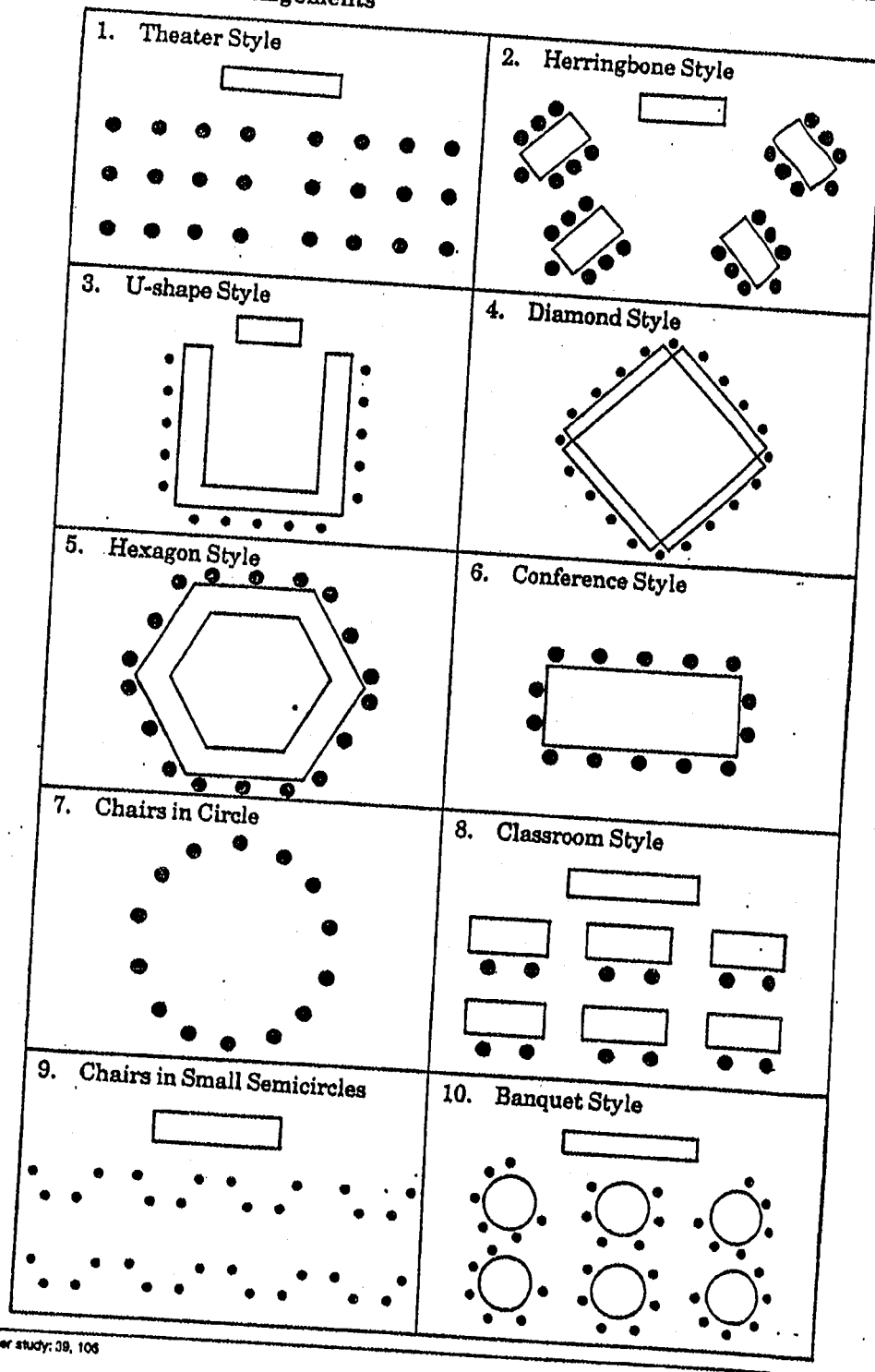
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TECHNIQUES AND DEVICES

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G. Room Arrangements



H. On the Use of Questions

There are three types of questions that may be asked in a classroom or discussion group context.

1. Questions of *Fact*

- A question of fact requires a factual answer; there is one "right" answer to such a question.
- Such questions are used to check knowledge of the facts.

2. Questions of *Interpretation*

- A question of interpretation asks for *meaning*. What does this statement *mean*? It may seek
 - the meaning of a phrase
 - the meaning of a sentence
 - the meaning of some action or event
 - the meaning of a writer
- These are "why" questions, about which there may be several opinions. There is no one correct answer. These are questions that can be *discussed*.
- Such questions are used to understand meaning.

3. Questions of *Evaluation*.

- A question of evaluation asks the student to what extent the ideas under discussion have application to his own life, his own personal experience, and his standard of values.
- Questions of evaluation differ from interpretive questions in that they ask the student for his own viewpoint rather than to interpret what an author means.
- These are "what would you do?" or "what would you have done?" questions.
- Such questions are used to encourage application.

I. On Group Discussions

1. Three uses of discussion

- Gathering information
- Exchanging ideas and viewpoints
- Solving problems

2. Suggestions for group discussion leaders:

- Arrange group in circle, so each person can see every other person.
- Let all stay seated during discussion, including leader. Keep it informal.
- See that everybody knows everybody else. At first gathering, go around the circle, each introducing himself, or have members pair off and introduce each other. As a newcomer joins group later, introduce yourself to him and him to the group.

- Have chalkboard, chalk and eraser or flip chart ready for use in case of need. Appoint a "chalk secretary" if the subject-matter and occasion make it desirable.
- In opening, emphasize: *Everyone* is to take part. If one single member's view fails to get out in the open, to that extent the discussion falls short.
- Emphasize: *No speeches*, by leader or group member. No monopoly. After opening statement, limit individual contributions to a minute or so.
- Make your own preparation for the discussion. Think the issues through in advance. Aim to establish connections between ideas of background materials, and experience and ideas of group members.
- At outset get a sharply defined question before the group. Have three or four alternatives put on board if you think this will help. "Which do you want to start with?" "Is this question clear?"
- In general, don't put questions to particular group members, unless you see that an idea is trying to find words there anyway: "Mrs. Brown, you were about to say something." Otherwise: "Let's have some discussion of this question. . . ." "What do some of the rest of you think about this?" "We've been hearing from the men. Now how do you women feel about this?" "What's been the experience of you folks in your community in this connection?" Etc.
- Interrupt the "speech maker" as tactfully as possible: "While we're on this point, let's hear from some of the others. Can we save your other point 'til later?"
- Keep discussion on the track; keep it always directed, but let the group lay its own track to a large extent. Don't groove it narrowly yourself.
- Remember: the leader's opinion doesn't count in a discussion. Keep your own view out of it. Your job is to get the ideas of others out for an airing.
- If you see that some important angle is being neglected, point it out: "Bill Jones was telling me last week that he thinks. . . What do you think of that?"
- Keep the spirits high. Encourage ease, informality, good humor. Let everybody have a good time. Foster *friendly* disagreement. Listen with respect and appreciation to all ideas, but stress what is important, and turn discussion away from what is not.
- Take time every ten minutes or so to draw the loose ends together: "Let's see where we've been going." Be as fair and accurate in summary as possible.
- Close discussion with summary—your own or the secretary's. Call attention to unanswered questions for future study or for reference back to speakers. Nourish a desire in group members for continuing study and discussion.

EXTENSION HANDBOOK

Donald J. Blackburn, Editor

University of Guelph
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CHAPTER 8

TEACHING TECHNIQUES

Hazel Mitchell and Lynda Corby

The nature of the job of an extension educator puts you in a very unique, exciting, but challenging position — that of influencing change in people's knowledge, attitudes, skills and practices. How successfully you bring about change will be, to a large extent, dependent upon how effective you are as a change agent.

In choosing instructors for adult learners, a basic error in assumptions is frequently made — someone who possesses a great deal of knowledge in a subject area will be able to teach it to others. In reality, the attempt to teach does not constitute teaching. The effective teacher or change agent must not only know his subject but must also consider and utilize the factors that will promote change in individuals.

People Need Time to Change

Stop and think for a moment about a recent learning event in which you participated that caused you to change your behaviour. Was the change something that happened overnight? Not likely! You probably went through a relatively slow process, moving at your own speed, with nobody pressuring you. When you received new information you took time to mull it over in your mind, evaluate it, then work towards a decision on whether or not you even wanted to change.

Most people go through a similar process before they change, too. As an educator, if you don't recognize this fact and allow sufficient time for change to occur, this

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may be one of the reasons why your program is (occasionally) less than effective.

Patrick Borich, an extension expert at the University of Minnesota, has called the step-by-step process that people go through in making decisions to change "the natural inquiry process." The process is summarized in Figure 1.

On the left side of the chart, Borich has identified three levels of inquiry that he suggests people go through when they receive new information. The first step is to answer the question "Is this applicable to me?" If the answer is "No," the person will tune out the message, no matter how relevant the educator may perceive it to be.

Secondly, Borich proposes that once a person feels the new information is applicable, he is likely to seek out more knowledge on the topic from what he considers to be reliable sources. He will find out what other people are practising.

Finally, the individual will assess what this information means to himself in terms of changing.

In moving through these levels of inquiry, people tend

to go through nine steps before they actually make a change in behaviour. The discovery process comes with new knowledge, and discussion and dialogue with others will strengthen or weaken the desire to change. Finally, personal reflection will result in rejection or acceptance of the information at each of the inquiry levels.

Let's look at this process as it applies to a real example — that of educating women about breastfeeding. Perhaps a young woman has always thought that when she has children she will bottle feed her babies. She has always thought that bottle feeding is just as nutritious as breastfeeding, that it is convenient and that it would be best for her. When she becomes pregnant, she is immediately in a different knowledge sphere. She listens to more information; she hears more things about babies; she is more open to the baby's immediate future. Perhaps in discussion with a co-worker or friend she finds that the individual breastfed all her children, found it convenient not to have to prepare formula, and found it a pleasurable closeness with the baby. In fact her doctor had recommended it as best for the baby. Our young

Fig. 1 — The Natural Inquiry Process

Levels of Inquiry	Inquiry Functions		
	Discovery (Well, I'll Be Darned!)	Interpersonal Dialogue (What Do You Think?)	Reflection and Assessment (Let Me See!)
Personal Knowledge About Self in the Situation (Does This Apply To Me?)	1	2	3
	Confirmation	Verbalization of Thoughts	Identify Problems
General Principles From External Know- ledge (Others Have Walked This Path Before)	4	5	6
	Explore Established Knowledge	Verbalize and Reflect Against Problem	Identify Purposes or Aspirations (Re-Appraise Problem)
Relationship Between Way of Life and Environment (I've Got to Change)	7	8	9
	Set Individual Growth Task (Objectives)	Verbalize Growth Tasks For Appraisal and Revision	Accomplish Changed Behaviour

woman has obtained new information. She is at inquiry level one. She will now likely discuss this with her husband and perhaps her mother, to get the opinions of significant others. Will her husband feel left out? Would he consider it convenient or acceptable in public? How did her mother find the experience?

Once she has this information, step three becomes introspective. She will think specifically about how breastfeeding will affect her. Perhaps she wants to go on working — will it be easy to go home to feed the baby? Can she bring the infant to work? Then she may remember friends who had trouble breastfeeding and who quit. She needs more information on their experiences so she is ready to move to level two in the inquiry process — that of exploring more established knowledge. She may read books, talk more to her doctor, the public health nurse, or home economist. She will seek out those whom she perceives as valid sources of knowledge. Armed with factual inputs she will now talk this over with her husband again and finally assess it as it applies to herself.

At this point she may be convinced that she will give breastfeeding a try, and she moves to inquiry level three. She now asks "what do I need to do to prepare for breastfeeding?" She will set the objectives or tasks that will prepare her to breastfeed, and she actually begins to breastfeed once the infant is born. At this point she will reappraise her decision as she may encounter problems, but if there is sufficient support to get her through

the time when her breasts are sore or until the time when she establishes sufficient milk supply for the baby, she will continue to breastfeed, thus adopting it as a behavior change.

What is the Educational Objective?

Once the educator has accepted and allowed for the time required to bring about change, he or she can utilize the natural inquiry process to establish educational objectives based on the level of inquiry of the learners. The educator must establish whether the learning experience should develop new knowledge, understanding, awareness — provide for the acquisition of new skills or behaviour — or change attitudes, values, or priorities.

Whatever the objective, it is good strategy to utilize a combination of presentation methods to achieve the objective, as this will have a greater impact in bringing about change in people (Alberta Agriculture, 1981a). Use Figure 2 to determine which techniques are most suitable for your objectives. Some of the ideas listed will already be part of your repertoire — we all have old standby techniques with which we are most comfortable — like our favourite slippers that are well worn. It's easy to continue to use these strategies to the exclusion of ones that might do a better job at achieving objectives. New techniques are part of the growing process of an educator.

Fig. 2 — Appropriate Teaching Techniques for Defined Objectives (Renner, 1980a; McLagan, 1978a; Frewin, 1976a)

Teaching Techniques	Levels of Educational Objectives				
	Knowledge/ Awareness	Understanding	Skills/ Behavior	Values/ Priorities	Attitudes
Assigned Reading	X	X			
Brainstorming	X				
Buzz Groups	X	X		X	
Case Studies		X		X	X
Circle Response	X	X		X	X
Contracts			X		
Demonstration/Practice		X	X		
Discussion	X	X		X	X
Experiments	X	X	X		
Field Projects	X	X	X		
Field Trips	X	X			
Games/Simulations		X	X		
Learning Log		X	X		
Lecture	X	X		X	X
Media	X				
Panel	X	X			
Programmed Instruction	X	X			
Role Play	X	X		X	
Student Teach	X	X	X		X
Values Clarification				X	X
Workshop	X	X	X		

How do your Participants prefer to learn?

Just as teaching techniques need to match the educational objective, so should they be chosen with the learner in mind. Adults have definite preferences for learning methods and may be more motivated to participate in learning experiences when given the opportunity to learn in their preferred style. Some would rather learn through abstract thinking — by discussions, lectures, or by the use of audio tapes or books. Others prefer an observed experience such as a demonstration, a film, or a field trip. For those who would rather be involved in active experimentation, the use of games, role play exercises, case studies, and tests may be more appropriate. Application in a real-life setting can be done through applied projects, self-analysis, and checklists. The more methods that can be incorporated into a presentation, the more likely participants will experience some of their preferred learning styles. McLagan (1978b) recommends using symbols to designate each method used in a lesson plan as a quick check to see that a variety of methods have been included. The following symbols have been incorporated into the lesson plan in Figure 5 for this purpose:

- abstract thinking
- ▲ observed experience
- active experimentation
- ◆ application to real life

The conditions under which adults learn will also have an influence on their satisfaction in the experience. Some learners like a very structured environment. They want everything "laid on," that is, they prefer the instructor to make the decisions about what is to be learned and how it will be presented rather than to participate in the development of the objectives and the learning techniques. Some like to work closely with people while others prefer to learn alone. Some want a lot of interaction with the subject matter specialist while others don't care about direct contact. Feedback via tests and checklists may motivate some, while others are rewarded by the learning itself (McLagan, 1978c).

To assist you in planning a program that will most closely meet student objectives and learning preferences, you might circulate a questionnaire to registrants. This questionnaire could address the topics, issues and skills that will be used in the class. People can then choose the topics they prefer by using a check, to rate or rank them in order of the significance to them. This approach gives the instructor a quick feel for his audience but does not require the learner to identify what he feels he needs to know.

If this cannot be done in advance, you might collect this information at the first meeting with a group through a similar questionnaire or by simply having participants put their expectations down on a blank piece of paper. If you wish more structured responses, use questions such as:

- What would you like to learn during this course in terms of skills and information?
- What kinds of activities would make this course most enjoyable for you?
- What kinds of activities would you prefer not to get involved in?
- How can the instructor be most useful to you in your learning?
- What contributions do you think you can make to the learning of others in the class (Renner, 1980b)?

When such feedback is requested at your first class, be prepared to be flexible in your plans — a true test of an extension agent!

Evaluations from past courses that you or your colleagues have taught are also valuable inputs for planning. With this information about your audience you can select strategies that would most likely move the learners toward their goals. You can individualize instruction if needed and assist each person to assess his learning during the course.

With the participants identifying their interests and needs, they can watch for their problems and issues during the course. They can see how an otherwise impersonal course becomes a learning project specifically tailored to meet their needs.

How many people will attend the Learning Event?

The number of participants involved in a program will be another determining factor in your selection of teaching techniques. It would be very difficult to demonstrate sewing techniques to a group of fifty; on the other hand, you likely would not show a slide set to an individual — the use of hand cards or a pamphlet might be more appropriate.

There will be times when the instructor does not know how many participants may attend. However, the teaching techniques selected may be adapted appropriately, as long as the instructor is flexible. For example, if you intend to use brainstorming at the beginning of your session and you have too many people to get active participation, break the large group into smaller groups and use a report back system.

What will the Facilities be like?

Communities in which you teach offer a wide variety of facilities for group presentations — some excellent, others considerably lacking. Your job will be to make the best of the situation confronting you. Prior to your

session, find out as much as you can about the facility so you won't be surprised.

Is the room comfortable? Are the chairs large enough for adults? Are the temperature and ventilation satisfactory? Is the lighting adequate? Is it neither too crowded nor too spacious for the number of participants? Are you able to move the furniture around so as to achieve the greatest interaction between the participants and/or the instructor? Is your room suited to the teaching technique you plan to use?

It would be very difficult to use group discussion in a room with chairs secured in rows, but your participants could discuss with the person beside them in a buzz group.

Finalizing your Choice of Techniques

Once you have answered the above questions to your satisfaction, you will have a good profile of the learning event from which you can make decisions on the most effective teaching techniques to use. Each of the techniques outlined in Figure 2 should be assessed for its advantages and disadvantages in light of this profile.

Assigned Reading

Adult learners have a wide variety of educational backgrounds, experience, current situations and aspirations. One way of accommodating these variations is to suggest or assign reading to be completed on an individual basis to supplement what the instructor can cover with the group. This allows those with greater interest in a subject the flexibility to pursue further reading whereas others may choose to opt out of such outside work. Current news articles or research material interject current happenings into a subject, making the material more relevant to the group.

Reading material that is essential to developing understanding of a concept must be chosen at an appropriate reading level and must also be readily accessible to participants. The purpose of the assignment should be clearly outlined then followed up with the group through discussion. Clarification of issues and implications is also essential.

A disadvantage of assigning reading outside of class is that many adults do not have, or are unwilling to commit, additional personal time to do extra reading. Consequently, as the instructor you cannot rely on this form of instruction when the information is a prerequisite to what will be covered with the total group.

Brainstorming

The goal of brainstorming is to generate as many ideas or solutions to a problem as possible within a given time frame (Leypoldt, 1976a). Generally, as the group offers ideas they are recorded on a flipchart or blackboard as one idea may spark another. Initially, no criticism of anyone's idea is allowed. Sometimes an idea may

sound crazy but it could be the beginning of a practical solution. The emphasis is on creativity and quantity. Once several solutions or ideas have been put forward, they can be analyzed critically by the total group or a smaller committee, and a practical solution can be determined.

Another version of this activity is "idea charting" where group members individually record their ideas onto small cards or pieces of paper — with each thought on a separate card. The leader then categorizes the cards and places them on a wall or bulletin board for group review. This is a good technique for obtaining group input into planning course content as it is readily apparent when several participants are interested in similar subject matter. Whereas verbal brainstorming often inhibits less vocal group members, idea charting discourages a monopoly on the idea exchange and each individual has the opportunity to contribute. Both brainstorming and idea charting are excellent techniques for bringing out creativity in both large and small groups.

Buzz Groups

Buzz groups are useful in facilitating discussion in large groups. The main group is divided into subgroups consisting of three to six people for a brief period to discuss a topic or solve a problem. An individual may be selected to record the discussion and report back to the main group. People often participate more readily in small groups allowing participants to relate their own experiences to classroom theory. In utilizing this technique, the leader should make the purpose of the buzz group clear, preferably by writing down the problem or issue to be solved. As instructor, you are then free to float between groups to determine progress or assist if needed. This technique can be useful as a warm-up activity to get people acquainted with each other in smaller groups and to list expectations of a session. It can also be a valuable evaluation tool if buzz groups are asked to identify strengths and weaknesses of a presentation or course. While individuals may be reluctant to offer honest criticism directly to the instructor, a spokesperson for each group may be more at ease in reporting comments if he speaks on behalf of a group. (Renner, 1980c).

The buzz group is most useful for situations which call for quick reaction to a simple assignment. It is also much better for raising problems than for solving them (Potter and Anderson, 1966a).

Case Studies

Through case studies, information regarding a real-life situation can be presented in written form to group members, who in turn can analyze various aspects of the problem and offer solutions. This approach is useful on an individual or group basis in that each group

member can analyze the case study, followed by group discussion. The case can also be dealt with in small groups, with the solutions recorded and reported back to the main group.

Case studies are of value in developing critical thinking on the part of participants. They learn how to analyze a situation, prescribe a sound and workable solution, and understand the basic problems involved. This is also a useful evaluation technique for the instructor to assess how well students can apply new information. However, a drawback to the approach is that people often have difficulty transferring this approach to their own real-life situation because such decision-making is not usually based on a carefully designed case nor is the input of other "critical minds" available to assist in the solution (Potter and Anderson, 1965b).

Circle Response (or Small Circles of Knowledge)

This technique is useful with a small group of twelve or fewer participants, giving all people in the group an opportunity to contribute thoughts and ideas to a subject that has been previously presented, or to obtain input on a new issue (Renner, 1980d). Participants should sit in a circle facing each other so that all can be heard. The leader should state a question or issue to the group, and pose it in such a way that it cannot be answered "Yes" or "No." Ask each person to then briefly give their position, feelings, or opinions. With larger groups, this same technique can be used by dividing the main group into subgroups. A recorder should be appointed in the latter case and should report back to the main group. With this technique, no person may skip his turn or contribute until it is his turn. No one is allowed to criticize anyone's contribution.

For this technique to be successful, all group members must feel comfortable contributing.

Contracts

A learning contract is a simple but explicit agreement specifying and ratifying mutual expectations between two people (or one person and a group of learners) (Renner, 1980c). Its value lies in its formality, in that contracted learning or behaviour is then considered important, fair, and possible. Behaviour change required in weight loss programs or money management are areas where contracts can be particularly useful. The contract must specify:

1. The goals to be accomplished.
2. Agreed-upon steps to reach the goals.
3. The time frame in which the goal will be achieved.
4. Mutually agreed-upon consequences or penalty of not achieving the goal.

Both parties between whom the contract is made must sign and date the contract.

A contract places a great deal of responsibility on the learner but has the advantage of clearly defined expectations.

Demonstration/Practice

For learning that involves skill development, demonstration and practice are essential. A good step-by-step demonstration gives participants first hand observational experience in how to carry out a new skill. Demonstrations can enhance learning since two senses are involved as observers watch and listen.

To enhance the effectiveness of a demonstration, careful planning will ensure that all needed materials are on hand, that sufficient time, space, and equipment are available, and that physical arrangements permit all group members to see and hear well.

For the demonstration to be effective, participants must have the opportunity to practice the new skill and receive feedback on their performance very soon after a demonstration. Key steps should also be provided in written form to aid the learner in following the new procedure on his own.

Discussion

Discussion is a technique to cooperatively pool knowledge, ideas, and opinions about a subject in order to learn new information or to solve a problem (Stephens and Roderick, 1971a). For best results, discussion groups should be limited to no more than six people. This allows for maximum participation — in groups larger than this some people will not participate (Reeder, 1963). Similar to the buzz group, discussion groups need a leader, a recorder, a well-phrased question or problem to tackle, and a report back to the main group. Unlike the buzz group, more in-depth response is expected; consequently a longer period of time is generally required.

In deciding whether to utilize discussion as a teaching strategy, consider these points (Potter and Anderson, 1966c):

1. Is the problem or issue of real significance to the group and controversial? Problems that relate to health, interpersonal relationship, farming practices, and social issues materially affect people's lives and are therefore meaningful subjects for discussion.
2. Is the problem suited to the group? Age, sex, educational level, experience, and training are a few factors to consider here.
3. Is the problem adaptive to reflective thinking? If there is no need to explore possible solutions or if everyone agrees on the information, there is little need to discuss it. Likewise, if students possess no previous knowledge of the subject matter, it is pointless to

expect them to learn from each other by pooling their knowledge and ideas.

4. Is there sufficient time to effectively handle the issue? If inadequate time is available, no real solutions can be put forward and the group will develop a sense of frustration at not accomplishing anything.

Effective discussion requires adequate preparation, perhaps even more than other teaching strategies. The physical set-up in the room must be considered as well as the group interaction and its effect on learning (Stephens and Roderick, 1971b). By considering the possible points of view that might be raised during discussion, the effective leader can decide in advance how to best get fair consideration of each point, perhaps by posing appropriate questions.

Experiments

Experimentation is useful as a follow-up for demonstrations or as a method to discover a solution to a problem (Spitze, 1970a).

Depending on the nature of the experiment, a wide variety of equipment may be necessary and a great deal of time needed in order to obtain results. Experimentation should always be followed by discussion, interpretation of results and correction of any misconceptions developed.

Field Project

When a class is too large to participate in a field trip or when time is a constraint, field projects may be more appropriate. This allows for a number of places to be visited by various class members who report back on their experiences, thus increasing the opportunity to learn from others in the class. Group members may also choose their own site to visit, providing more flexibility in the learning experience. They can also visit the site at their own leisure, thus saving on class time.

Field Trips

A useful technique to enable learners to observe firsthand a process, procedure, or event is the field trip.

In making advance preparation for the field trip, the leader should clearly describe the purpose to the tour guide to ensure that observations provided are appropriate.

The group should be given a clear understanding in advance of what they are to observe. Advance reading may be appropriate and aid in preparation of potential questions. Each participant should be encouraged to jot down pertinent facts about the trip for later discussion and interpretation. Use of cameras and tape recorders should be encouraged too.

The limitation of field trips is often group size; too many people in a group make observations difficult, and explanations unwieldy. The additional time and expense incurred for field trips may also make it an impractical teaching strategy.

Games and Simulations

One of the most successful, action-oriented teaching techniques is the use of simulations and games (NAPCAE, 1972a). Simulations and games are experiential exercises — their use is based on the theory that we learn differently (and perhaps more) from doing than from being told (Zilmer and Zilmer, 1982a). When we also have fun in an educational setting, learning is enhanced even more. Games can be used to stimulate interest, to evaluate application of knowledge, to gain information, to analyze situations and to make judgments, depending on the way the games are structured (Spitze, 1969). Games are self-judging; a player can gauge his own success and the teacher is no longer the critic (NAPCAE, 1972b).

The success of simulations and games depends upon a determination of educational goals, careful introduction to the activity, the experience of the activity, and a discussion of the experience and its application to real life (Zilmer and Zilmer, 1982b; Boocock and Schild, 1968). In judging games as a teaching technique, one might consider the following questions (Spitze, 1970b):

1. How will an adult learner respond to learning through games? Will he perceive this as a valid way to learn? Introduction of the game objectives must be very clearly outlined.
2. How much time is available to play the game? Does it take a great deal of explanation of rules and procedures of play or can players get into the game quickly? Is the amount of time needed to play reasonable, given the amount of learning that will take place?
3. Is the subject matter preserved? In other words, is there any misinformation portrayed?
4. Is the game flexible enough to be adaptable to different learning abilities and situations?
5. Does winning require knowledge rather than luck?
6. Is competition friendly and does it foster good relationships among learners?
7. Does the game aid in skill development, knowledge, improved attitudes to learning, help in clarifying values? In other words, does it fit in with your objectives?

A newer educational strategy, computer assisted learning, is actually a form of simulation that is proving to

be fascinating to the public. "Budgeting classes sound pretty dull to the general public. . . computers sound exciting. When you decide to use computers to teach, the news media quickly pick up on the idea, special interest features appear in the lifestyle section of the newspaper and local television talk show hosts and hostesses rush to book you for an early morning program. Publicity is easy to get and audiences come to see what the computer can do for them." (Carmack, 1979).

Computers are useful as a teaching strategy in three main areas. They can help people make decisions by providing a wide variety of possible alternatives for productive planning in agriculture or family living. They are extremely useful in information storage and retrieval, and if properly utilized they can help people learn new things at their own pace in a classroom setting, at home or in the regional Extension Office (Douce, 1979). Currently their disadvantage lies in their cost and in the equipment needed. Depending on the program, Canadian-oriented software may not be available and personnel may not be adequately trained.

Adults often have difficulty seeing the educational usefulness of a simulation or game. Your ability to plan for their use and to carry out an activity whereby the student has more control over his own learning will determine whether you will use this type of teaching strategy (Zilmer and Zilmer, 1982c).

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Learning Log

A learning log can be utilized to help learners keep track of experiences through a course or workshop or to collect information on themselves in order to apply course-related information to their personal lives (Renner, 1980). Material recorded in the log can be kept private or individuals may be encouraged to share their comments with the entire group. Entries may include impressions, experiences, discoveries, and questions that arise as the course progresses.

Lecture

The lecture is likely the teaching technique with which adults are most familiar. Unfortunately, it can be one of the least effective ways of providing information. Material may lend itself to a lecture format if your main concern is to provide information that is for short retention only or where the group is too large to utilize other techniques.

Fortunately, there are ways of making lecture material more meaningful and involving to the learner other than as passive note-takers (Renner, 1980g).

Provide a road map or outline to indicate to your listeners where you are going, how you are going to get there, and how long it will take. The listener can then anticipate events and prepare for a change in pace or techniques.

Follow a logical sequence, relating familiar information to new material. Include examples from students' personal experiences, readings, or previous discussion.

Provide well-organized handouts or structured notes consisting of the key points you will cover. Leave space on the notes for participants to add their own details.

Use other techniques along with the lecture to maintain interest and attention: change pace, move about the room, use gestures to emphasize important points, change your style from questioning to problem solving tasks, from discussions in buzz groups to demonstrations.

Utilize appropriate visual aids such as overhead transparencies, slides, films.

Train yourself to speak from key points rather than reading verbatim from a prepared text. If you are simply going to read to the class what you have written in front of you, perhaps it would be just as well to hand out your lecture notes and cancel the class!

Media

News articles, radio spots, television programs and quarterly magazines are often not viewed as teaching strategies in the same way as lectures, discussions and so on. Yet they are techniques for reaching a large number of people in their homes so that they can learn on their own time. Their use often means reaching people who never attend extension courses or meetings, such as young homemakers with children who cannot make babysitting arrangements, the elderly or handicapped who may be homebound, or individuals with lack of transportation.

Two recent evaluation studies conducted in Manitoba illustrated the effectiveness of a weekly television program and of a quarterly news bulletin at providing new knowledge to homemakers.

In a telephone survey, of the 294 respondents who had seen the television program "Take Time," 192 (65%) said they had learned from the program. Of the 192 people who felt they had learned something, 134 (70%) were able to state 1-4 examples of what they had learned. Forty-four people (23%) who said they learned from the program were able to cite 1-3 examples of practice change.

Surveyed readers of the quarterly news bulletin "Around Home in Ten" are learning new information. Ninety-five percent (211) stated that they learned new information from reading the quarterly. Seventy-three percent (154) of those who learned new information gave 1-4 examples of what they had learned. Eighty-one percent (159) of those who learned new information stated they had changed some of their homemaking practices. Sixty-one percent (102) of those were able to cite 1-3 examples of practice change. (Manitoba Department of Agriculture evaluations, unpublished, 1982.)

When television or radio media are utilized as an extension teaching technique, adequate publicity is

Important to ensure that the intended viewing or listening audience is informed of the timing. Often the educator does not have a say on the playing time which is one of the disadvantages of this technique.

Combining home study courses with television media is a practical adaptation of this teaching approach.

Panel

Panel discussions have the advantage of bringing several "experts" to a group to present a variety of viewpoints on a selected issue. It is necessary to meet with panel members in advance to discuss the topic and the types of information that you want discussed. Audience involvement can also be brought in by providing for buzz groups to generate questions of the panelists or to direct audience-to-panel interaction. If this latter step is not taken, panels can be very dry events.

Programmed Instruction

The idea of programmed instruction may summon up in one's mind a picture of salivating dogs or pecking pigeons responding to repetitive learning tasks stimulated by a ringing bell or flashing light. However, programmed instruction does have many plusses to add to the adult teaching environment.

Material designed in programmed format is organized into short progressive steps graded in difficulty so that the learner is motivated to continue because of success gained in each step. Confidence is a most important aspect of learning. The reinforcement and encouragement provided through programmed learning makes the student eager to continue (Stephens and Roderick, 1971c).

Because each learner works at the material on his own, he can begin at a place suited to his knowledge and skills and proceed through it at his own pace. He not only determines the speed of progression but is also actively involved in recording answers or checking from a group of possible answers. Ample evidence is available on the value of such active involvement in learning.

Immediate feedback afforded by this technique has the positive benefit of correcting wrong concepts and reinforcing accuracy.

On the negative side, some learners find this technique boring. There are also limited materials available in programmed instruction format and these may be designed at an inappropriate reading level.

Role Play

Role playing is a variation on simulation. It is a dramatization of a situation to show reactions and behaviour. Generally there is no rehearsing and all lines are composed on the spot. It is especially useful in examining attitudes and interpersonal relationships. It encourages active involvement of participants and its novelty often

draws comments from those who are less vocal in the group. It is best used in situations where a problem is clear-cut rather than complex.

The major steps involved in staging a role-play situation are defining the problem and establishing the situation, determining the roles to be played, casting the characters, briefing participants, acting out the scene and discussing and analyzing the outcome (Stephens and Roderick, 1971d).

Poor role playing and unsuitable players can actually destroy the learning intent. Role playing should never be used where anxiety or fear would develop in the group.

Student Teach

As mentioned previously, adult learners bring a wide range of knowledge and expertise to the classroom which can be utilized to teach others in the group. This is particularly useful in a skill development program where more advanced learners can be teamed with the less experienced, on a one-to-one or small group basis. This also serves to strengthen the self-concept of the student teacher by giving recognition to his skills and knowledge.

Values Clarification

The technique of values clarification deals with making choices, weighing the consequences, experimenting, and perhaps making new choices (Engs and Wantz, 1978). As an example, couples who share in the allocation of their financial resources must be able to verbalize and discuss life choices of value to them and then come to a compatible decision. Otherwise, little satisfaction will be obtained from their money. An educator can facilitate in the identification of values and goals and can also provide the factual information from which sound decisions can be made. Critical to the success of a values clarification exercise is a non-judgmental, psychologically safe environment.

Workshop

The goal of a workshop approach to learning is to gain information through experience and sharing. It usually consists of common interest groups who, under direction of a leader, participate in learning activities such as demonstration, problem-solving, discussion and experimentation. In short, it combines many of the previously discussed teaching strategies to meet the needs of the interest group.

Teaching Aids

Factors which affect the selection of teaching aids are very similar to those which affect the choice of teaching strategies. Appropriate aids enrich the learning experience immensely, but remember that they are aids —

they do not teach on their own. Always provide a clear introduction to aids such as films, slides, or audiotape, and outline the objective for their use and what the learner should watch for. Follow-up discussion will also reinforce the learning.

Experiment with a variety of aids to increase your skill in their use. When making selections, be sure to preview

materials well in advance to determine their suitability for achieving your objectives or supplementing other materials. In determining its appropriateness, consider the type of equipment necessary for the facility in which you will be using the aid. Advantages and disadvantages to various teaching aids are outlined in Figure 3.

Fig. 3 — Some Characteristics of Successful Aids (adapted from Frewin, 1976b)

	Advantages	Disadvantages		Advantages	Disadvantages
Clippings (i.e., newspaper, magazines, ads)	<ol style="list-style-type: none"> 1. Timeliness — can be applied to a specific situation 2. Readily available and inexpensive. 3. Easy to update material. 	<ol style="list-style-type: none"> 1. Takes time to find appropriate examples. 	Overhead Presentations	<ol style="list-style-type: none"> 1. Permit instructor to face learners. 2. Permit before-hand preparation of diagrams, notes, etc. 3. Very flexible. 4. Can be used without darkening a room. 5. Can be used to show sequences and relationships. 6. Equipment easy to use especially with large groups. 7. Large number of transparencies easy to carry and maintain. 	<ol style="list-style-type: none"> 1. Complex or multicolor transparencies require special preparation, skills and equipment.
Comic books/ cartoons	<ol style="list-style-type: none"> 1. Highly visual content. 2. Can add humor and fun to learning, particularly when using an identifiable character. 	<ol style="list-style-type: none"> 1. The stigma attached to reading comics may have an adverse effect on its value as an educational tool (i.e., "comics are for kids") 2. Requires time to find cartoons that illustrate points. 3. Comics can be costly to develop. 	Pamphlets	<ol style="list-style-type: none"> 1. Provide a comprehensive reference on a specific topic at an appropriate reading level. 2. Lends itself to one to one, small group or large group instruction. 	<ol style="list-style-type: none"> 1. When handed out at a class without support teaching, participants often do not read the material. 2. May be costly to produce.
Filmstrips	<ol style="list-style-type: none"> 1. Are easy to store and always in proper sequence. 2. Can be used in conjunction with other aids. 3. Can be reproduced in quantity. 4. Presentation rate can be controlled by user. 5. Can be used individually or in groups. 	<ol style="list-style-type: none"> 1. Require semi-darkened room. 2. Very difficult for teacher to prepare himself. 3. Difficult to repair if broken or damaged. 4. Sequence or content cannot be changed for varying uses. 	Photographs	<ol style="list-style-type: none"> 1. Permit detailed study at the learner's own pace. 2. Require no equipment for use. 3. Can be used for display, individual or group work. 	<ol style="list-style-type: none"> 1. Not adaptable to large groups. 2. Preparation requires skill and equipment.
Games (examples — puzzles, crosswords)	<ol style="list-style-type: none"> 1. Can be used individually in a self-teaching situation or with large groups to reinforce learning. 2. Can readily be adapted to the teaching situation. 3. Generally inexpensive to produce. 	<ol style="list-style-type: none"> 1. Takes time to develop or modify for use with appropriate group. 	Puppets	<ol style="list-style-type: none"> 1. Puppets can be used in place of role play where adults may be reluctant to assume a role. 2. Technique is non-threatening — the puppet can take on certain characteristics that may be typical of group members. 	<ol style="list-style-type: none"> 1. Stigma of being a child-like technique may have an adverse effect on learning. 2. Takes time to create the puppets. 3. Works best in small groups particularly when you know the participants well.
Handcards	<ol style="list-style-type: none"> 1. Good for one to one or small group teaching. 2. Illustrative material can be presented on the front for participants, and key notes outlined on the back of the card for the instructor. 	<ol style="list-style-type: none"> 1. Limitation in size of group that they can be used with. 	Recordings	<ol style="list-style-type: none"> 1. Easy to prepare with regular tape recorders. 2. Wide variety of applications in most subject areas. 3. Equipment easy to use and to operate. 4. Can be used by individuals, groups, or in conjunction with other aids. 5. Can be used almost everywhere with battery equipment. 	<ol style="list-style-type: none"> 1. Danger in overuse if used as alternative to live speech or lecture. 2. Some learners may find it boring or of limited use. 3. Special equipment needed for amplification with large groups.
Motion Pictures	<ol style="list-style-type: none"> 1. Excellent for describing motion, growth, showing relationships, and giving impact to topic. 2. Can be used individually or with any size group. 3. Can have a wide variation in length and subject matter. 4. Extensive film libraries are accessible to most instructors. 	<ol style="list-style-type: none"> 1. Can have a moderate lending cost. 2. Must usually be ordered well in advance of showing. 3. Requires some skill in operating equipment. 4. Wide variation in quality and usefulness. 5. Can be expensive to produce locally. 	Samples (weed identification, sewing samples, food products)	<ol style="list-style-type: none"> 1. Direct application and readily observable. 2. Can be tailored to specific teaching point. 3. The "real thing" — not relying on pictures or descriptions. 4. Lends itself to display for a larger audience. 	<ol style="list-style-type: none"> 1. Time consuming to find, prepare or produce. 2. Time frame often requires far-in-advance preparation.
Multi-media Presentations	<ol style="list-style-type: none"> 1. Can provide variety of viewpoints, show relationships and have great impact. 2. Can involve all the learner's senses. 3. Can be used by individuals or small groups in rotation. 	<ol style="list-style-type: none"> 1. Require careful planning, coordination, preparation, use and follow-up. 2. Can be used as a gimmick rather than an aid. 3. Skill usually involved in equipment use. 	Slides	<ol style="list-style-type: none"> 1. Can result in large, colorful reproductions. 2. Easily revised and up-dated. 3. Easily handled, stored and altered for various uses. 4. Can be combined with other aids for more effectiveness. 5. Adaptable for group or individual use. 6. Presentation rate can be varied. 	<ol style="list-style-type: none"> 1. Requires semi-darkened room. 2. Requires some skill in photography for preparation. 3. Requires some type of equipment for use. 4. Can get out of sequence, be damaged, or shown incorrectly if handled by individual learners.
			Yearsheets	<ol style="list-style-type: none"> 1. Inexpensive method of providing summary information on a specific topic. 2. Good for individuals not geared to reading; often pictorial. 3. Lends itself to one to one, small group or large group instruction. 	<ol style="list-style-type: none"> 1. Limited in amount of information that can be provided.

Although you may have a plan for presentation of a topic clearly in mind, take the important step of writing it down. A lesson plan is a checklist for you. Have you put all the pieces in place? Consider using a lesson plan format similar to that outlined in Figure 4.

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[illegible]

Fig. 5 — Example use of Lesson Plan

Teaching Objectives: Following participation in a 3 hour workshop on conducting effective meetings the participants will:

1. provide solutions to common meeting problems
2. write agendas using objectives

Obj. #	Format	Content	Activity		Resources Needed
			Instructor	Participant	
1	◆	Introduction: *Idea charting: 5 things you dislike about meetings	explain "Idea charting"	write down one idea on each index card	5 index cards per person pencils
1	▲	film – How to conduct innovative meetings – look for key ideas – areas of concern – how to solve problems	introduce film and points to look for in film	watch film	film projector screen
	●	discuss film – answer questions	lead discussions		
2	◆ ● ■	Agendas – evaluate 3 agendas – Lecture – prepared agenda by using objectives case study – prepare an agenda for a meeting described in the case study.	lecture	evaluate agendas/ report back work on case study – prepare an agenda – discuss	3 prepared agendas case study – describe meeting, but no agenda
2	■	Meeting problems – role play various problems and solutions	describe situation to be role played	role play	role play situation written on sheets of paper

Once the lesson is completed, you may wish to write a few notes on the reverse side of the lesson plan. You might define the audience and how they reacted to the techniques you used. What are your overall impressions of the session? These notes may be very helpful when you later present a similar program.

What Skills Do You Bring to the Learning Situation?

So far we have concentrated on participant and environmental factors. But what about your particular skills as a learning facilitator? Your expertise in the subject, your attitude toward learning, your ability to interact with the learners, and your personality are all contributing factors to the learning process. By identifying your strengths and building on them, you will enhance the experience for your group.

The next time you are presenting to a group, ask a

colleague to come along to observe. Choose someone for whom you have respect as an educator, from whom you would feel comfortable taking some constructive comments. Ask him to objectively evaluate the way you use teaching aids, the variety of teaching techniques employed, your voice inflection, facial expression, and the clarity of your speech. How did the observer feel about the climate developed between you and the audience? What could you have done to encourage more group interaction and participation? The checklist in Figure 6 will help to get you started on a self evaluation. Add any other points that you feel would be helpful to you.

Fig. 6 — Self Evaluation of Presentation

	Check	Comments
1. The method of INTRODUCING THE CLASS stimulated group interest in the rest of the class.	<input type="checkbox"/>	
2. The AUDIO-VISUAL aids used helped clarify and emphasize the lecture.	<input type="checkbox"/>	
3. The AUDIO-VISUAL aid(s) used were: - Introduced - discussed later	<input type="checkbox"/>	
4. Throughout the class the speaker varied the stimulus situation. - gestures (expressive, dramatic) - pausing techniques - movement (left to right in room) - focusing (drawing particular attention) - shifting sensory channels (listening, seeing, touching) - repetition	<input type="checkbox"/>	
5. Materials and ideas presented in language understandable to the participants.	<input type="checkbox"/>	
6. Organization: Explanations given for: - purpose of lecture - main content - summary of main points	<input type="checkbox"/>	
7. Speaker's response to questions and comments was ENTHUSIASTIC.	<input type="checkbox"/>	
8. Speaker's response to participation was POSITIVE in comments and gestures. Speaker was confident in their presentation.	<input type="checkbox"/>	
9. Good use of EXAMPLES - start simple - relevant to participants - relate to principle or idea - asked group to give example	<input type="checkbox"/>	
10. The group had ample time to ask QUESTIONS.	<input type="checkbox"/>	
11. Speaker asked QUESTIONS requiring more than a superficial answer to assess whether the participants had the same understanding as intended. - cause and effect (what would be the result . . .) IMPACT - solution (how would you solve . . .) APPLICATION - inference (why does this happen . . .) - comparison (is fruit juice the same as fruit drink . . .) - evaluation (which insecticide is better . . .)	<input type="checkbox"/>	
12. Good EYE-CONTACT with total group.	<input type="checkbox"/>	
13. The speaker established a good RAPPORT with the group . . . - early in class - maintained throughout	<input type="checkbox"/>	
14. The speaker was sensitive to class interest level and modified presentation if appropriate.	<input type="checkbox"/>	
15. Speaker helped participants apply the information to their own situation.	<input type="checkbox"/>	
16. Speaker REVIEWED major points and ideas throughout lesson.	<input type="checkbox"/>	
17. Summary and conclusion of class handled smoothly.	<input type="checkbox"/>	
18. Used techniques appropriate for assessing whether educational objectives were met.	<input type="checkbox"/>	

In summary, adults enjoy and benefit from a variety of teaching techniques. Your effectiveness as an educator will be enhanced if, when choosing teaching strategies, you consider the following points (Spitze, 1970c):

1. Involve your learners in choosing the techniques; they will be more accepting of the situation.
2. Choose real life or simulated learning experiences; learners will see them as being more relevant and be more eager to learn.
3. Involve your learners mentally, emotionally, and physically; interest will be greater, learning more long-term.

4. Use "ego involvement": If participants have a felt need or interest in the information, motivation and learning are increased.

5. Help learners to experience success; their self-esteem and motivation will be enhanced.

6. Provide pleasure in the learning situation; learners will then be more likely to continue study on their own.

7. Develop skills for independent learning.

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EDUCATIONAL TECHNIQUES

Developed in this form by
Dr. John A. Henschke

An attempt is made below to develop a typology or categorical check list of the wide range of techniques available for helping adults to learn.

The task of selecting the right technique for the right occasion can be fraught with difficulties. For one thing, there is a curious tendency toward faddism in regard to techniques. During the 1930's discussion was the "in" technique; during the 1940's there was a wave of interest in presentation techniques supported by audio-visual aids; during the 1950's T-group techniques were fashionable; in the 1960's simulation was king; in the 1970's multi-media systems took the day; and, in the 1980's, electronic media is and will be in the frontseat. For another thing, there is a tendency on the part of individuals to go overboard on new techniques they have just mastered and to want to use them on every occasion; although the opposite tendency of individuals being reluctant to experiment with new techniques is probably even more prevalent.

Take a few moments and indicate with a check (X) the techniques you have already used in your role as teacher.

Now go back over the list and indicate with a circle (O) the ones you would like to (consider or commit yourself to) develop and/or use in your role of teaching.

1.) Presentation techniques

- ☐ lecture
- ☐ television, videotape
- ☐ debate
- ☐ dialogue
- ☐ interview
- ☐ symposium
- ☐ panel
- ☐ group interview
- ☐ demonstration
- ☐ colloquy
- ☐ motion picture
- ☐ slides
- ☐ dramatization
- ☐ recording, radio
- ☐ exhibits
- ☐ trips
- ☐ reading
- ☐ audio-cassette
- ☐ programmed instruction

2.) Audience-participation techniques (large meetings)

- ☐ question-and-answer period
- ☐ forum
- ☐ listening teams
- ☐ reaction panel
- ☐ buzz groups
- ☐ audience role playing
- ☐ expanding panel

3.) Discussion techniques

- ☐ guided discussion
- ☐ book-based discussion
- ☐ Socratic discussion
- ☐ problem-solving discussion
- ☐ case discussion
- ☐ group-centered discussion

4.) Simulation techniques

- ☐ role playing
- ☐ critical-incident process
- ☐ case method
- ☐ in-basket exercises
- ☐ games
- ☐ action maze
- ☐ participative cases

5.) T-group (sensitivity)

6.) nonverbal exercises

7.) skill-practice exercises, drill, coaching

8.) multi-media systems

9.) learning contracts

Knowing

- _____ book report
- _____ lecture
- _____ panel
- _____ question and answer
- _____ research and report
- _____ screened speech
- _____ symposium
- _____ symposium dialogue

Doing

- _____ demonstration - work group
- _____ field trip
- _____ work groups
- _____ workshop

Feeling

- _____ brainstorming
- _____ buzz groups
- _____ case study
- _____ chain-reaction forum
- _____ circle response
- _____ colloquy

- _____ couple buzzers
- _____ debate forum
- _____ depth bible encounter
- _____ expanding panel
- _____ film talk-back
- _____ gallery conversations
- _____ group discussions
- _____ group drawing
- _____ group response team
- _____ group writing
- _____ inductive bible study
- _____ interview forum
- _____ lecture forum
- _____ listening teams
- _____ music forum
- _____ panel forum
- _____ play-reading talk-back
- _____ reaction panel
- _____ role playing
- _____ seminar
- _____ sermon forum
- _____ symposium forum

EVIDENCE FOR DIFFERENT OBJECTIVES

- Knowledge - _____ reports of knowledge acquired, as in
- _____ essays
 - _____ examinations
 - _____ oral presentations
 - _____ audio-visual presentations

- Understanding - _____ examples of utilization of knowledge in solving problems, as in
- _____ critical incident cases
 - _____ simulation games
 - _____ proposals of action projects
 - _____ research projects with conclusions and recommendations

- Skills - _____ performance exercises, with ratings by observers

- Attitudes - _____ attitudinal rating scales
- _____ performance in role playing
 - _____ critical incident cases
 - _____ simulation games
 - _____ sensitivity groups
- } with feedback from observers

- Values - _____ value rating scales
- _____ performance in value clarification groups
 - _____ critical incident cases
 - _____ simulation games
- } with feedback from observers

"AS WE LOOK AT THE EVALUATION OF REACTION, LEARNING, BEHAVIOR, AND RESULTS, WE CAN SEE THAT *EVIDENCE* IS MUCH EASIER TO OBTAIN THAN *PROOF*. IN SOME CASES, *PROOF* IS IMPRACTICAL AND ALMOST IMPOSSIBLE TO GET!"

(95)

EVALUATING TRAINING PROGRAMS: EVIDENCE VS. PROOF

BY DONALD L.
KIRKPATRICK

From the courtroom we can take a lesson regarding *evidence vs. proof*. A defendant is not judged "guilty" unless the evidence is so strong that there is no "reasonable" doubt. The word "reasonable", of course, still creates a problem. What is a "reasonable doubt"? Is it the same as "a shadow of a doubt"? Probably not. But the intent is that a person is innocent until proven guilty. And attorneys, juries, judges, reporters, witnesses, court observers and newspaper readers will continue to argue about the "guilt" or "innocence" of a defendant.

Let's apply these words, "*evidence*" and "*proof*" to the evaluation of training programs. In previous articles I have divided the evaluation process into four segments or stages as follows:

1. *Reaction*: How do the participants feel about the program they attended? To what extent are they "satisfied customers"?

2. *Learning*: To what extent have the trainees learned the in-

formation and skills? To what extent have their attitudes been changed?

3. *Behavior*: To what extent has their job behavior changed as a result of attending the training program?

4. *Results*: To what extent have results been affected by the training program? (Results would include such factors as profits, return on investment, sales, production quality, quantity, schedules being met, costs, safety record, absenteeism, turnover, grievances and morale.)

Let's analyze each one in terms of *evidence vs. proof*.

Reaction

In measuring reaction, we can ask the participants what they thought of the program (subject, leaders, schedules, facilities, meals, etc.) The key question here is whether people give *honest* reactions. If, for example, they must sign their reaction forms and they have a fear of being critical, then the reactions are only *evidence* of the feelings of the trainees. If on the other hand, they are

completely candid and honest, then the reaction sheets are *proof* of the feelings and satisfaction of the participants. This factor of honesty is one that is readily controllable and therefore *proof* of reaction is relatively easy to get. For example, forms should not be signed and should be handed in or collected in such a way that there is no way to identify the person who completed it. If this is made clear to participants, honest reactions can be obtained and we do have *proof* of the reaction.

LEARNING

In measuring the *learning* of knowledge, skills and attitudes, it is relatively easy to obtain *evidence* but more difficult to obtain *proof*. For example, if we teach a class in "motivation," we can ask the participants "*what did you learn?*" The responses might vary all the way from "nothing" to "I learned how to motivate my employees." This kind of data, whether we get it orally or in writing, is strictly *evidence*. If we are going to get *proof*, we must measure learning on an objective basis by comparing their knowledge, skills, and attitudes before the program

change. In order to eliminate other factors that could have caused the change, we must use a control group. This means that the control group must be equal to the experimental group regarding any factors that could cause changes in behavior. And we must measure the control group as well as the experimental group on a preprogram and postprogram basis to determine behavior changes that are caused by factors other than the training program. These changes must be subtracted from changes in the experimental group to determine the behavior changes that resulted from the program.

This three-step process becomes complicated, time-consuming and expensive. But it must be done to produce *proof* instead of *evidence*.

Results

The evaluation of results is similar to the evaluation of behavior. We can quite readily obtain *evidence* regarding the effectiveness of training on results. For example, if we instigate a new orientation and training program for new employees, we can measure turnover on a preprogram and postprogram basis.

We could probably obtain *evidence* that the program is effective because turnover has been reduced. However, in order to *prove* that the training program reduced turnover, we'd have to eliminate other factors that could have caused reduction in turnover. Some of these factors are: increase in pay, better selection methods, fewer jobs available in the community, a seasonal situation, improved working conditions, change in management, improved security in the company, better working conditions and improved benefits. Again we need a control group to eliminate these other factors.

As we look at the evaluation of reaction, learning, behavior, and results, we can see that *evidence* is much easier to obtain than *proof*. In some cases, *proof* is impractical and almost impossible to get. Therefore, what do we do?

Let's shoot for *proof* but be satisfied with *evidence*. In most

cases, our superiors would be more than satisfied with *evidence*, particularly in terms of behavior or results. It's certainly a lot more than most of them have been getting now.

If you have a boss who insists on *proof* of what you are doing, you must do one of the following:

1. Provide the *proof* at all costs.
2. Convince your boss that *evidence* is good enough and that *proof* is either impossible or at least impractical.

Recently, a friend of mine called me to New York to help him convince his boss that it was impractical (if not impossible) to prove in dollars and cents that a certain leadership training program was achieving more benefits than it was costing. Both my friend and I were convinced that there was *no way* to prove this. So we proceeded to try to educate the boss regarding *evidence* versus *proof*.

Learn all you can about evaluation. Next, gather *evidence* that your programs are effective. If they are not, don't broadcast the *evidence*. Just work at improving your programs so the *evidence* will be positive and then communicate it to your superiors. Most superiors will be most happy and will not ask for *proof*. However, as time and money permit, gather *proof* of the effectiveness of your programs. And if the *proof* shows an effective program, broadcast it around the world.

REFERENCES

1. "Supervisory Inventory on Human Relations" by Dr. Donald L. Kirkpatrick, 1080 Lower Ridgeway, Elm Grove, WI 53122 (Sample copy available on request).
2. "Evaluating Training Programs" A collection of articles from the *Training & Development Journal*, compiled by Dr. Donald L. Kirkpatrick, ASTD, Box 5307, Madison, WI 53705.

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with their knowledge, skills and attitudes after the program. Therefore, we need some kind of a pretest and posttest to obtain this data.

At first look, this would seem to provide *proof* except for one factor. We aren't quite sure whether the change in knowledge, skill, or attitudes came from the training program or from some other source. For example, a higher score on the posttests may have been due to such factors as the very process of taking the test twice or things that were learned outside the training program. Therefore, the difference between pretest and posttest scores provide *evidence* and not *proof*.

In order to get *proof*, we need to eliminate all the other factors that could have caused changes in posttest versus pretest scores. This can be done by using experimental and control groups. The experimental group is the group that attends the training program. The control group is a like group that does not attend the training program.

For example, we may have 50 production supervisors in our organization. These could be divided on a random basis by alphabetical order with every other one in the experimental group. Or, they could be divided on a systematic basis so there are 25 in each group with similar education, experience, jobs, age, and any other factors that would affect their test scores. Both groups would complete the pretest and posttest at the same time. The average scores would be compared.

As an example, a course on "Human Relations" is to be presented to supervisors. Half of them (25) will form the experimental group to participate in the program. The other half will be given the course at a later date, so they become the control group. The "Supervisory Inventory on Human Relations"¹ (80 items) will be used as the pretest and posttest.

Let's suppose that the average scores were:

	PRETEST
Experimental Group	61.4
Control Group	62.7

The course was then given to the experimental group. At the completion of the course, both groups again completed the test with scores as follows:

	POSTTEST
Experimental Group	69.9
Control Group	69.8

In this example, the gain for the experimental group was 8.5 (69.9-61.4). The gain for the control group was 7.1 (69.8-62.7). The difference between the gains was 1.4 (8.5-7.1) in favor of the experimental group. This is the net score attributable to the course because all other factors were the same for the experimental and the control group. Therefore, the gain due to the program was only 1.4 which is not significant. Therefore, we don't have *proof* that significant learning has taken place.

If we hadn't used the control group, the gain of 8.5 for the experimental group was highly significant. This would have provided good *evidence* that learning had taken place. But we had to use a control group in order to eliminate the other factors that could have contributed to the gain. If we had discovered that the posttest and pretest scores for the control group were 63.5 and 62.7 (gain of .8) instead of 69.8 and 62.7 (gain of 7.1), then the difference between the gain of the experimental and control groups would have been 7.7 (8.5-.8) which would have been highly significant. Then we would have had *proof* of the learning.

Behavior

It is relatively easy to obtain *evidence* of behavior changes that occur in participants because they attended a program. All we have to do is to ask them. Three months or three days or three weeks after a program we can interview participants and ask "What are you doing differently than you were doing before you attended the program on human relations?" The answers might be:

"I'm telling people when they do a good job."

"I'm listening to them and getting to know them better."

"I'm letting them know what I expect."

"I'm rewarding them for per-

formance."

"I'm asking them for their ideas."

"I'm making their jobs more interesting and challenging."

We might even go to their bosses and ask, "Have you noticed any change in the behavior of your subordinates since they attended the human-relations program?" The answers might vary from:

"No, I haven't seen any change" to:

"Yes, he's sure treating his subordinates a lot better."

The responses from the participants and their bosses would provide some evidence of the effectiveness of the program in terms of changes in job behavior. However, these kinds of responses would not provide proof.

How could we get *proof*? This requires a research approach which would do the following:

1. Measure behavior before the training program was given.

2. Measure behavior after the training program was completed.

3. Prove that any changes in behavior were due to the program and not to other factors such as salary adjustments, coaching from the boss, influence from other people inside or outside the organization, reading of books or articles, or an experience the participant had.

It's difficult to do the first one, measure the behavior before the program. We would have to do it enough times to be sure the behavior is typical. We'd have to do it in such a way to be sure the measurement is accurate.

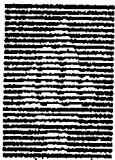
The second step is more difficult. For one thing, we'd have to wait long enough to measure the behavior to be sure that the participant has had an opportunity to change behavior. This may be one week, one month, or three months and it would vary for different people. And we might have to measure it several times (one month, three months and six months) to be sure that any change in behavior is permanent.

When we compare the posttest behavior with the pretest behavior and find a change, we must be sure that the program caused the

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Effective training directors will make an effort to evaluate all their training activities. The success of these efforts depends to a large extent on a clear understanding of just what "evaluation" means. This chapter will attempt to accomplish two objectives: (1) to clarify the meaning of evaluation and (2) to suggest techniques for conducting the evaluation.

These objectives will be related to "in-house" classroom programs, one of the most common forms of training. Many of the principles and procedures can be applied to all kinds of training activities such as performance review, participation in outside programs, programmed instruction, and the reading of selected books.

The following quotation from Daniel M. Goodacre III is most appropriate as an introduction:

Managers, needless to say, expect their manufacturing and sales departments to yield a good return and will go to great lengths to find out whether they have done so. When it comes to training, however, they may expect the return—but rarely do they make a like effort to measure the actual results. Fortunately, for those in charge of training programs, this philanthropic attitude has come to be taken for granted. There is certainly no guarantee, however, that it will continue, and training directors might be well-advised to take the initiative and evaluate their programs before the day of reckoning arrives.¹

Evaluation Clarified

Nearly everyone would agree that a definition of evaluation would be "the determination of the effectiveness of a training program." But this has little meaning until we answer the question: In terms of what? We know that evaluation is needed in order to improve future programs and to eliminate those programs which are ineffective. The problem is how to begin.

Evaluation changes from a complicated, elusive generality into clear and achievable goals if we break it down into logical steps. These steps can be defined as follows:

Step 1: Reaction. How well did the conferees like the program?

Step 2: Learning. What principles, facts, and techniques were learned? What attitudes were changed?

Step 3: Behavior. What changes in job behavior resulted from the program?

Step 4: Results. What were the tangible results of the program in terms of reduced cost, improved quality, improved quantity, etc.?

With this clarification of the meaning of evaluation, training directors can now begin to pinpoint their efforts at evaluation. They better realize what they are doing, and they recognize the limited interpretations and conclusions that can be drawn from their findings. As they become more experienced and sophisticated in evaluation design and procedures, they slowly begin to obtain more meaningful results on which future training can be based.

These four steps will now be defined in detail with examples and suggested guidelines. It is important to stress that the described *procedures* and *techniques* can be used in almost any organization. It is also important to stress that the *results* from one organization cannot be used in another organization. Obviously, there are many factors that would influence the results. These variables include the group, the conference leader, and the approach to the subject.

Step 1: Reaction

Reaction may best be defined as how well the trainees liked a particular training program. Evaluating in terms of reaction is the same as measuring the feelings of the conferees. In fact, it is measuring "customer satisfaction." It is important to emphasize that it does not mean...

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Guidelines for Evaluating Reaction

1. Determine what you want to find out.
2. Use a written comment sheet covering those items determined in step 1.
3. Design the form so that the reactions can be tabulated and quantified.
4. Obtain honest reactions by making the forms anonymous.
5. Encourage the conferees to write in additional comments not covered by the questions that were designed to be tabulated and quantified.

The comment sheet shown in Fig. 16-1 was used to measure reaction at an ASTD summer institute that was planned and coordinated by the staff of the Management Institute, University of Wisconsin.

ASTD INSTITUTE					
Leader _____			Subject _____		
Date _____					
1. Was the subject pertinent to your needs and interests?					
<input type="checkbox"/> No		<input type="checkbox"/> To some extent		<input type="checkbox"/> Very much so	
2. How was the ratio of lecture to discussion:					
<input type="checkbox"/> Too much lecture		<input type="checkbox"/> O.K.		<input type="checkbox"/> Too much discussion	
3. Rate the leader on the following:					
	Excellent	Very good	Good	Fair	Poor
A. Clarifying objectives					
B. Keeping the session alive and interesting					
C. Using audiovisual aids					
D. Maintaining a friendly and helpful manner					
E. Illustrating and clarifying points					
F. Summarizing					
What is your overall rating of the leader?					
<input type="checkbox"/> Excellent		<input type="checkbox"/> Very good		<input type="checkbox"/> Good	
		<input type="checkbox"/> Fair		<input type="checkbox"/> Poor	
4. What would have made the session more effective?					

Signature (optional)					

Figure 16-1. Reaction form.

Those who planned this ASTD program were interested in reactions to subject, technique (lecture versus discussion), and the performance of the conference leader. Therefore, the form was designed accordingly. The conferees were asked to place a check in the appropriate spaces so that the reactions could be readily tabulated and quantified.

In question 3, concerning the leader, it was felt that a more meaningful rating would be given the leader if the conferees considered items A through F before checking the overall rating. This question was designed to prevent a conference leader's personality from dominating group reactions.

Question 4 encouraged the conferees to suggest any improvements that came to mind. The optional signature was used so that follow-up discussions with conferees could be done. In this ASTD summer institute, about half of the conferees signed their names. With this type of group, the optional signature did not affect the honesty of their answers, in all probability. It is strongly suggested that unsigned sheets be used in most in-house meetings, however.

In most cases, a simpler comment sheet is sufficient. Figure 16-2 shows a form that obtained significant information on reaction and requires minimum time from participants. This form can be used for each leader. Of particular importance is the separation of "subject" from "leader."

To evaluate a total program that includes a number of sessions, a final comment sheet (Fig. 16-3) can provide additional valuable information for improving future programs. So that "standards of performance" can be established for the quality of instruction, the reactions can conveniently be converted to numerical ratings. For example, on the forms shown in Figs. 16-2 and 16-3 the following ratings can be used: excellent = 5, very good = 4, good = 3, fair = 2, and poor = 1. An example of reactions from 27 participants might be:

10 Excellent	$10 \times 5 = 50$
10 Very good	$10 \times 4 = 40$
5 Good	$5 \times 3 = 15$
1 Fair	$1 \times 2 = 2$
1 Poor	$1 \times 1 = 1$
27 Total participants	108 Total points

Dividing 108 (total points) by 27 (total participants), we get a rating of 4. Experience in a particular organization can provide data for the establishment of a standard of performance for all instructors.

I firmly believe in getting a comment sheet on each subject and each leader. In the case where the same leader is conducting a series of meetings with the same group, it may not be necessary to get reactions after each session. In a nine-session program, for example, it may be sufficient to obtain reactions after the third, sixth, and ninth sessions. A final comment sheet should also be used to get an evaluation of the entire program.

It has been emphasized that the form should be designed so that tabulations can be readily made. In my opinion, too many comment sheets are still being used in which the conferees are asked to write in their answers to questions. A form of this kind makes it very difficult to summarize comments and to determine patterns of reaction.

How to Supplement the Evaluation of the Conferees

At the Management Institute of the University of Wisconsin, sessions are always evaluated in terms of the reactions of the conferees. Occasionally the coordinator of

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REACTION SHEET

Please give us your frank reactions and comments. They will help us evaluate this program for possible improvement in future programs.

Leader _____ Subject _____ Date _____

1. How do you rate the subject content?

- ☐ Excellent
- ☐ Very Good
- ☐ Good
- ☐ Fair
- ☐ Poor

COMMENTS:

2. How do you rate the conference leader?

- ☐ Excellent
- ☐ Very Good
- ☐ Good
- ☐ Fair
- ☐ Poor

COMMENTS:

3. What benefits do you feel you got from this session?

- ☐ New knowledge that is pertinent.
- ☐ Specific approaches, skills or techniques that I can apply on the job.
- ☐ Change of attitude that will help me in my job.

OTHER:

4. What would have made this session better? (Use other side if necessary.)

Figure 16-2. Reaction form.

the program felt that the group reaction was not a fair evaluation of the effectiveness of the program. Sometimes the conference leader's personality made such an impression on the group that this person received a very high rating. In other sessions, the conference leader received a low rating because he or she did not have a dynamic personality. Therefore, some members of the Management Institute adopted a procedure by which the conference leader was rated by the coordinator as well as by the group. The form shown in Fig. 16-4 was used.

This procedure in which the coordinator of the program also evaluates each conference leader was also used in an ASTD summer institute. It was found that a coordinator's rating was usually close to the group's rating, but in some instances it varied considerably.

It is suggested that the training director in each company consider this approach. A trained observer such as the training director or another qualified person would

FINAL REACTION SHEET

NAME OF PROGRAM _____

DATE _____

1. How would you rate the overall program?

- ☐ Excellent
- ☐ Very Good
- ☐ Good
- ☐ Fair
- ☐ Poor

COMMENTS:

2. To what extent will it help you do a better job for your organization?

- ☐ To a large extent
- ☐ To some extent
- ☐ Very little

COMMENTS:

3. What were the major benefits you received? (Check as many as you wish.)

- ☐ Helped confirm some of my ideas.
- ☐ Presented new ideas and approaches.
- ☐ Acquainted me with problems and solutions from other companies.
- ☐ Gave me a good chance to look objectively at myself and my job.

Other benefits:

4. How were the meeting facilities, luncheon arrangements, etc?

- ☐ Excellent
- ☐ Very Good
- ☐ Good
- ☐ Fair
- ☐ Poor

COMMENTS:

(OVER)

Figure 16-3. Final reaction sheet.

fill out an evaluation form independent of the group's reactions. An analysis of the two would give the best indication of the effectiveness of the program.

Conclusions about Reaction

The first step in the evaluation process is to measure the reactions to training programs. It is important to determine how people feel about the programs they attend. Decisions by top management are frequently based on one or two comments made by people who have attended. A supervisory training program

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5. What would have improved this program?

6. Would you like to attend future programs of a similar nature?

- ☐ Yes
- ☐ No
- ☐ Not sure

7. Other comments and suggestions for future programs:

Signature (optional) _____

Figure 16-3. Final reaction sheet (continued).

may be canceled because one superintendent told the plant manager that "this program is for the birds."

Also, conferees who enjoy a training program are more likely to obtain maximum benefit from it. According to Spencer, "for maximum learning you must have interest and enthusiasm." In a talk given by Cloyd Steinmetz, of Reynolds Metals and a past president of ASTD, he stressed: "It is not enough to say, 'here is the information, take it?' We must make it interesting and motivate them to want to take it."

To evaluate effectively, training directors should begin by doing a good job of measuring the reactions and feelings of people who participate. It is important to do this in an organized fashion, using written comment sheets which have been

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COORDINATOR'S RATING OF LEADER			
Name of leader _____		Subject _____	
Date _____			
	Very much so	To some extent	No
A. PREPARATION			
1. How well prepared?			
2. Preparation geared to group?			
B. CONDUCTING			
1. Held interest of group?			
2. Was enthusiastic?			
3. Used audiovisual aids?			
4. Presented material clearly?			
5. Helped the group apply the material?			
6. Adequately covered subject?			
7. Involved the group?			
8. Summarized during and at end?			
C. CONSTRUCTIVE COMMENTS			
What would you suggest to improve future sessions? _____			

D. ADDITIONAL COMMENTS			

Figure 16-4. Leader rating sheet.

designed to obtain the desired reactions. It is also strongly suggested that the form be so designed that the comments can be tabulated and quantified. In the experience of the staff of the Management Institute, it is also desirable to have the coordinator, training director, or another trained observer make his or her own appraisal of the session in order to supplement the reactions of enrollees. The combination of these two evaluations is more meaningful than either one by itself.

An instructor who has effectively measured the *reactions* of conferees and finds them to be very favorable can feel extremely proud. However, the instructor should also feel humble because the evaluation measurement has only begun. Even though he or she has done a good job of measuring the reaction of the group, there

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is still no assurance that any learning has taken place. Neither is there any indication that the behavior of the participants will change because of the training program. And still further away is any realistic way of judging any results that can be attributed to the training program.

Step 2: Learning

It is important to recognize that a favorable reaction to a program *does not assure* learning. All of us have attended meetings in which the conference leader or speaker used enthusiasm, showmanship, visual aids, and illustrations to make a presentation well accepted by the group. A careful analysis of the subject content would reveal that the speaker said practically nothing of value—but said it very well. It is also important to recognize that an unfavorable reaction probably assures no learning. It takes effort to learn, and “turned-off” participants won’t try.

Learning Defined

For the purpose of evaluation, learning is defined as follows: attitudes that were changed, and knowledge and skills that were learned. It does not include the on-the-job use of the attitudes, knowledge, and skills. This application will be discussed later in this chapter in the section on behavior.

Guidelines for Evaluating in Terms of Learning

Several guidelines should be used in measuring the amount of learning that takes place:

1. The learning of *each conferee* should be measured so that quantitative results can be determined.
2. A before-and-after approach should be used so that any learning can be related to the program.
3. Where practical, a control group (not receiving the training) should be compared with the experimental group which receives the training.
4. Where practical, the evaluation results should be analyzed statistically so that learning can be proved in terms of correlation or level of confidence.

These guidelines indicate that evaluation in terms of learning is much more difficult than evaluation in terms of reaction, as described earlier. A knowledge of statistics, for example, is desirable. In many cases, the training department will have to call on the assistance of a statistician to help plan the evaluation procedures, analyze the data, and interpret the results.

Suggested Methods

Classroom Performance. It is relatively easy to measure the learning that takes place in training programs that are teaching skills. The following programs fall under this category: job instruction training, work simplification, interviewing

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skills, reading improvement, effective speaking, and effective writing. Classroom activities such as demonstrations, individual performance of the skill being taught, and discussions following a role-playing situation can be used as evaluation techniques. The training director can organize these in such a way that he or she will obtain a fairly objective evaluation of the learning that is taking place.

For example, in a course that is teaching job instruction training (JIT) to supervisors, every supervisor will demonstrate in front of the class the skills of JIT. From their performance, the training director can tell whether the supervisors have learned the principles of JIT and can use them, at least in a classroom situation. In a work simplification program, the conferees can be required to fill out a "flow process chart," and the training director can determine whether they know how to do it. In a reading improvement program, the reading speed and comprehension of the participants can be readily determined by their classroom performance. In an effective speaking program, each conferee is normally required to give a number of talks, and an alert training director can evaluate the amount of learning that is taking place by observing the individual's successive performances.

Thus in situations like these, an evaluation of the learning can be built into the program. If it is organized and implemented properly, the training director can obtain a fairly objective measure of the amount of learning that has taken place. He or she can set up before-and-after situations in which the conferees demonstrate whether they know the principles and techniques being taught. In every program, therefore, where skills of some kind are being taught, the training director should plan systematic classroom evaluation to measure the learning.

Paper-and-Pencil Tests. Where principles and facts are taught rather than skills, paper-and-pencil tests can be used. In some cases, standardized tests can be purchased to measure learning. In other cases, training directors must construct their own.

To measure the learning in human relations programs, for example, the *Supervisory Inventory on Human Relations* might be used. Sample test items are listed in Fig. 16-5 (answered by circling A for "agree" or DA for "disagree").

SUPERVISORY INVENTORY ON HUMAN RELATIONS	
1. Anyone is able to do almost any job if he or she tries hard enough.	A DA
2. Intelligence consists of what we've learned since we were born.	A DA
3. If a supervisor knows all about the work to be done, he or she is therefore qualified to teach others how to do it.	A DA
4. A well-trained working force is a result of maintaining a large training department.	A DA
5. In making a decision, a good supervisor is concerned with his employees' feeling about the decision.	A DA
6. The supervisor is closer to his or her employees than to management.	A DA
7. The best way to train a new employee is to have him or her watch a good employee at the job.	A DA
8. Before deciding on the solution to a problem, a list of possible solutions should be made and compared.	A DA
9. A supervisor should be willing to listen to almost anything the employees want to say.	A DA

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Figure 16-5. Test to measure learning.

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Standardized tests are also available in such areas as communications, time management, managing change, modern management, and safety. In following the guidelines that were suggested in the beginning of this chapter, this kind of standardized test should be used in the following manner.

1. The test should be given to all conferees prior to the program.
2. If practical, it should also be given to a control group which is comparable with the experimental group.
3. These pretests should be analyzed in terms of two approaches. In the first place, the total score of each person should be tabulated. Second, the responses to each item of the inventory should be tabulated in terms of right and wrong answers. This second tabulation not only enables a training director to evaluate the program but also provides some tips on the knowledge and understanding of the group prior to the program. This means that in the classroom, the training director can stress those items most frequently misunderstood.
4. After the program is over, the same test or its equivalent should be given to the conferees and also to the control group. A comparison of pretest and posttest scores and responses to individual items can then be made. A statistical analysis of these data will reveal the effectiveness of the program in terms of learning.

One important word of caution is necessary: Unless the test or inventory accurately covers the material presented, it will not be a valid measure of the effectiveness of the learning. Frequently a standardized test will cover only part of the material presented in the course. Therefore, only that part of the course covered in the inventory is being evaluated. Likewise, if certain items on the inventory are not being covered, no change in these items can be expected.

Many training directors and others responsible for programs have developed their own paper-and-pencil tests to measure learning in their programs. For example, the American Telephone and Telegraph Company incorporated into its Personal Factors in Management program a short test measuring trainee sensitivity and empathy. First, each individual was asked to rank, in order of importance, 10 items dealing with human relations. The participants were then assigned to groups which worked 15 minutes at the task of arriving at a group ranking of the 10 statements. Following this 15-minute "heated discussion," each individual was asked to complete a short inventory, which included the following questions:

1. a. Were you satisfied with the performance of the group? Yes ____ No ____
b. How many will say that they were satisfied with the performance of the group?
2. a. Do you feel that the discussion was dominated by two or three members?
Yes ____ No ____
b. How many will say that they thought the discussion was dominated by two or three members?
3. a. Did you have any feelings about the items being ranked that, for some reason, you felt it wise not to express during the discussion? Yes ____ No ____
b. How many will say that they had such feelings?
4. a. Did you talk as often as you wished to in the discussion? Yes ____ No ____
b. How many will say that they spoke as often as they wished?

The successive class sessions then attempted to teach each conferee to be more sensitive to the feelings and ideas of other people. Later in the course, another "empathy" test was given to see whether there was an increase in sensitivity.

In Morris A. Savitt's article entitled "Is Management Training Worthwhile?"² he described a program that he evaluated. He devised a questionnaire which was given at the beginning of the program "to determine how much knowledge of management principles and practices the conferees had at the beginning." At the end of the 10-week program, the same questionnaire was administered to test the progress

made during the course. This is an example of a questionnaire tailored to a specific program.

Paper-and-pencil tests can be used effectively in measuring the learning that takes place in a training program. It should be emphasized again that the approach to this kind of evaluation should be systematic and statistically oriented. A comparison of before-and-after scores and responses can then be made to prove how much learning has taken place.

Conclusions about Learning

It is easy to see that it is much more difficult to measure *learning* than it is to measure *reaction* to a program. A great deal of work is required in planning the evaluation procedure, in analyzing the data that are obtained, and in interpreting the results. Wherever practical, it is suggested that training directors devise their own methods and techniques. As has been pointed out in this section, it is relatively easy to plan classroom demonstrations and presentations to measure learning where the program is aimed at the teaching of skills. Where attitudes, knowledge, and skills are the objectives of the training program, it is advisable to use a paper-and-pencil test. Where suitable standardized tests can be found, it is easier to use them. In many programs, however, it is not possible to find a standardized test, and training directors must use their skill and ingenuity in devising their own measuring instruments.

If training directors can prove that their programs have been effective in terms of learning as well as in terms of reaction, they have objective data to use in selling future programs and in increasing their status and position in the company.

Step 3: Behavior

A personal experience may be the best way of introducing this section. When I joined the Management Institute of the University of Wisconsin, one of my first assignments was to sit through a one-week course called "Human Relations for Foremen and Supervisors." During the week I was particularly impressed by a foreman named Herman from a Milwaukee company. Whenever a conference leader asked a question requiring a good understanding of human relations principles and techniques, Herman was the first one who raised his hand. He had all the answers in terms of good human relations approaches. I was very much impressed, and I said to myself, "If I were in industry, I would like to work for a man like Herman."

It so happened that I had a first cousin who was working for that company. And oddly enough Herman was his boss. At my first opportunity, I talked with my cousin Jim and asked him about Herman. Jim told me that Herman might know all the principles and techniques of human relations, but he certainly did not practice them on the job. He performed like the typical "bull of the woods" and had little consideration for the feelings and ideas of his subordinates. At this time I began to realize there may be a big difference between knowing principles and techniques and using them on the job.

Five requirements must be met for change in behavior to occur:

1. Desire to change
2. Know-how of what to do and how to do it
3. The right job climate

4. Help in applying the classroom learning
5. Rewards for changing behavior

The third requirement refers primarily to the boss of the person being trained. If he or she established a preventive or discouraging climate, no change in behavior is likely to occur even if the trainee is anxious to change and has acquired the necessary knowledge and skill. If the climate is neutral or encouraging, the change in behavior is apt to take place.

Several guidelines are to be followed in evaluating training programs in terms of behavioral changes:

1. A *systematic* appraisal should be made of on-the-job performance on a *before-and-after* basis.
2. The appraisal of performance should be made by one or more of the following groups (the more the better):
 - a. The person receiving the training
 - b. The person's superior or superiors
 - c. The person's subordinates
 - d. The person's peers or other people thoroughly familiar with his or her performance.
3. A statistical analysis should be made to compare performance before and after and to relate changes to the training program.
4. The posttraining appraisal should be made 3 months or more after the training so that the trainees have an opportunity to put into practice what they have learned. Subsequent appraisals may add to the validity of the study.
5. A control group (not receiving the training) should be used.

A "Supervisory Skills" Institute³

At the Management Institute, University of Wisconsin, a 3-day institute called "Supervisory Skills" was evaluated. The institute covered six topics: order giving, training employees, appraising employee performance, preventing and handling grievances, decision making, and initiating change. A questionnaire was completed by each supervisor who attended the institute to obtain information on the participant, the company, and the participant's relationship with his or her immediate boss. Specific information was obtained on:

1. The participant: job, experience, education, age, reasons for attending the program, and what he or she hopes to learn
2. The company: size, type, and climate for change
3. The participant's boss: years spent as boss, the climate he or she sets for change, and involvement in sending the person to the institute

Interviews were conducted with each participant within 2 to 3 months following the institute. The interviews were conducted in the participant's company to obtain information regarding changes in behavior that had taken place on the job. In addition, interviews were conducted with the participant's immediate supervisor as another measure of changes in the participant's behavior.

Examples of specific questions are shown in Fig. 16-6. In addition to measuring changes in behavior, an attempt was made to determine what results were achieved. Questions asked of both the participant and his or her boss are shown in

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Training employees	Yes		No		Not sure		
a. Since the supervisor attended the program, are his or her new or transferred employees better trained?							
Training method	Participant always		Participant usually		Participant sometimes		Participant never
b. Before the program, who trained the workers?							
c. Since the program, who trained the workers?							
Progress in training effectiveness	Does not apply	Much more	Some-what more	No change	Some-what less	Much less	Don't know
d. Since the program, if someone else trains the employees, has the supervisor become more observant and taken a more active interest in the training process?							
e. Since the program, if the supervisor trains the employees, is he or she making more of an effort in seeing that the employees are well trained?							
f. Since the program, is the supervisor more inclined to be patient while training?							
g. Since the program, while teaching an operation, is the supervisor asking for more questions to ensure understanding?							
h. Since the program, is the supervisor better prepared to teach?							
i. Since the program, is the supervisor doing more follow-up to check the trainees' progress?							

Figure 16-6. Examples of supervisor interview questions in Kirkpatrick study.

Fig. 16-7. Although the design of the evaluation was relatively simple, it provided data to indicate that significant changes in both behavior and results were achieved.

Conclusions about Behavior

The future of training directors and their programs depends to a large extent on their effectiveness. To determine effectiveness, attempts should be made to measure in objective terms. Measuring changes in behavior resulting from training programs involves a very complicated procedure. But it is worthwhile if training programs are going to increase in effectiveness and their benefits are to be made clear to top management.

It is obvious that very few training directors have the background, skill, and time to engage in extensive evaluations. It is therefore frequently necessary to call on industrial psychologists, research people, and consultants for advice and help.

Step 4: Results

The objectives of most training programs can be stated in terms of results such as reduced turnover, reduced costs, improved efficiency, reduction in grievances, increase in quality and quantity of production, or improved morale. From an evaluation standpoint, it would be best to evaluate training programs directly in terms of results desired. There are, however, so many complicating factors that it is extremely difficult, if not impossible, to evaluate certain kinds of programs in terms of results. Therefore, it is recommended that training directors evaluate in terms of reaction, learning, and behavior first and then consider results.

Certain kinds of training programs, though, are relatively easy to evaluate in terms of results. For example, in teaching clerical personnel to do a more effective typing job, you can measure the number of words per minute on a before-and-after basis. If you are trying to reduce grievances in your plant, you can measure the number of grievances before and after the training program. If you are attempting to reduce accidents, a before-and-after measure can be made. But a word of caution: A difficulty in the evaluation of training is evident at the outset, technically called "the separation of variables"; that is, how much of the improvement is due to training as compared to other factors? This is the problem that makes it very difficult to measure results that can be attributed directly to a specific training program.

A "Cost-Reduction" Institute

A number of years ago, two graduate students at the University of Wisconsin attempted to measure the results of a cost-reduction institute conducted by the Management Institute. Two techniques were used. The first was to conduct depth interviews with some of the supervisors who had attended the course and with their immediate superiors. The other technique was to mail questionnaires to the remaining enrollees and their supervisors. Following is a brief summary of that study:

Depth Interviews

Interview with Trainees

1. Have you been able to reduce costs in the few weeks that you have been back on the job?

1. To what extent has the program improved the supervisor's working relationship with his boss?

- ☐ To a large extent
- ☐ To some extent
- ☐ No change
- ☐ Made it worse

2. Since the program, how much two-way communication has taken place between the participant and his subordinates?

- ☐ Much more
- ☐ Somewhat more
- ☐ No change
- ☐ Somewhat less
- ☐ Much less
- ☐ Don't know

3. Since the program, is the participant taking a more active interest in employees?

- ☐ Much more
- ☐ Somewhat more
- ☐ No change
- ☐ Somewhat less
- ☐ Much less
- ☐ Don't know

Figure 16-7. Interview questions for supervisor and boss in Kirkpatrick study.

Replies: 13 — Yes

3 — No

2 — Noncommittal or evasive

1 — Failed to answer

2. How? What were the estimated savings? Different types of replies indicated that the 13 people who said they had made cost reductions had done so in different areas. But their ideas stemmed directly from the program, according to these trainees.

Interview with Superiors. Eight of the cost-reduction actions described by the trainees were confirmed by the immediate superior, and these superiors estimated total savings to be from \$15,000 to \$21,000 per year. The specific ideas that were used were described by superiors as well as by the trainees.

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4. On an overall basis, to what extent has the supervisor's job behavior changed *since* the program?

Supervisory Areas	Much Better	Somewhat Better	No Change	Somewhat Worse	Much Worse	Don't Know
a. Order Giving						
b. Training						
c. Decision Making						
d. Initiating Change						
e. Appraising Employee Performance						
f. Preventing and Handling Grievances						
g. Attitude toward Job						
h. Attitude toward Subordinates						
i. Attitude toward Management						

5. In regard to the following results, what changes have been noticed *since* the participant's attendance in the program?

Performance Bench Marks	Much Better	Somewhat Better	No Change	Somewhat Worse	Much Worse	Don't Know
a. Quantity of Production						
b. Quality of Production						
c. Safety						
d. Housekeeping						
e. Employee Attitudes and Morale						
f. Employee Attendance						
g. Employee Promptness						
h. Employee Turnover						

Figure 16-7. Interview questions for supervisor and boss in Kirkpatrick study (*continued*).

Mailed Questionnaires. Questionnaires were mailed to those trainees who were not contacted personally. The results on the questionnaire were not nearly as specific and useful as the ones obtained by personal interview. The study concluded that it is probably better to use the personal interview rather than a questionnaire to measure results from this type of program.

Conclusions about Results

The evaluation of training programs in terms of "results" is progressing at a very slow rate. Where the objectives of training programs are as specific as the reduction of accidents, the reduction of grievances, and the reduction of costs, we find that a number of attempts have been made. In a few of them, the researchers have attempted to segregate factors other than training which might have had an effect. In most cases, the measure on a before-and-after basis has been directly attributed to the training even though other factors might have been influential. An article

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called "Evaluating Training Programs: Evidence vs. Proof"⁴ describes a philosophy and approach that are appropriate for most programs.

Summary

One purpose of this chapter is to stimulate training people to take a penetrating look at evaluation. Their own future and the future of their programs depends to a large extent on their ability to evaluate and use evaluation results.

Another objective has been to clarify the meaning of evaluation. By breaking it down into reaction, learning, behavior, and results, the training professional can begin to do something about it and can gradually progress from a simple subjective reaction sheet to a research design that measures tangible results.

Articles on evaluation will continue to appear in the *Training and Development Journal* and other magazines. Some of these articles are well worth studying because they describe effective principles, procedures, and methods of evaluation.

This chapter has not provided the answers to the training director's problem of evaluation. It has attempted to provide an understanding of principles and methods. Better understanding will come from continued study of new principles and methods that are described in articles written in professional journals. Needless to say, skill in using proper evaluation methods can come only with practice.

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2. Savitt, Morris, "Is Management Training Worthwhile?" *Personnel*, September-October 1957.
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Special References

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- Suessmuth, Patrick, *Ideas for Training Managers and Supervisors*, University Associates, La Jolla, CA, 1978, Chapters 30-33.
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EVALUATION

REACTION SHEET

Please give us your broad reactions and comments: They will help us evaluate this program for possible improvement in future programs.

Leader: _____ **Student:** _____ **Date:** _____

1. How do you rate the Subject Content?

- ☐ **Excellent COMMENTS:**
☐ **Very Good**
☐ **Good**
☐ **Fair**
☐ **Poor**

2. How do you rate the Conference Leader?

- ☐ **Excellent COMMENTS:**
☐ **Very Good**
☐ **Good**
☐ **Fair**
☐ **Poor**

3. What benefits do you feel you got from this session?

- ☐ **New knowledge that is pertinent**
☐ **Specific approaches, skills, techniques that I can apply on the job**
☐ **Change of attitude that will help me on my job**

☐ **Other**

What would have made this session better? (Use other side if necessary)

Figure 16:2 Reaction Form

CRITICAL INCIDENT PROCESS

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DEFINITION - A crisis situation is deliberately created in the midst of a group learning experience (course, workshop, conference, etc.), which the group or an individual becomes responsible to handle. As they work toward solution, additional information in bits and pieces about the situation is given to them a number of times which influences their subsequent actions. At the completion of their handling the situation, an analysis and evaluation of the group's behavior is conducted.

CRITICAL INCIDENT SEQUENCE

You are in the midst of an inservice education conference on "Designing Learning for Adults." The next step in the process is that many learning techniques will be conducted live by the facilitators. These techniques will be used in concert with the needs of the learners in this conference. However, at the moment this is to take place, the facilitators have been called home and are unable to complete their work with the participants. How are you as a group going to organize yourselves to manage and respond to this crisis?

15 minutes later.

The word has come that one each of your bosses will be attending this program at 11 A.M., Friday, February 24 and want to experience what you have learned thus far in this conference. What will you as a group do to prepare yourselves to conduct this learning experience with their participation?

15 minutes later.

The word has now come that your bosses will use this learning experience you will conduct with them as a basis to evaluate you and possibly recommend a salary adjustment or continuing employment.

Make your final preparations for their arrival. Then be ready to conduct the learning experience.

CASE METHOD - Information regarding a real life situation is presented to the group members, who analyze all the aspects of the situation and offer an alternative or solution.

CASE: The current University Extension Inservice Education Conference list was provided to extension professionals. Designing Learning for Adults is one conference you elected to attend. You received a general outline of the conference. The topics of how adults learn, principles of design, and techniques for conducting adult learning are included. Given the facts that only part of the conference has been conducted, you will have opportunity to design or redesign one of your educational programs and have it critiqued by supportive colleagues. Please respond to the following:

- What are the strengths thus far in the program?
- What elements do you hope will be included in the remainder of the program?

THE MODERN PRACTICE OF ADULT EDUCATION

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From Pedagogy to Andragogy

REVISED AND UPDATED

Malcolm S. Knowles

Large Meetings

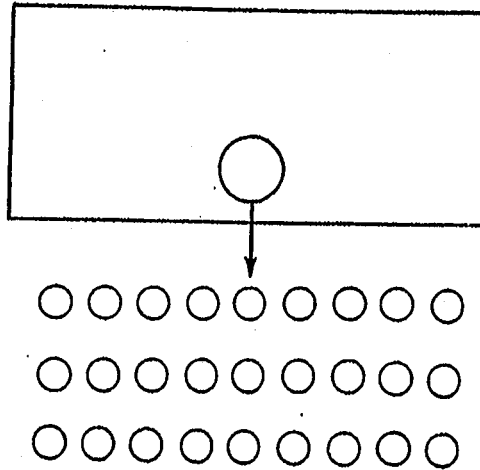
The large meeting is without doubt the one most widely used format for potential learning—defining “large meeting” as any assembly, regardless of number of people involved, in which the basic relationship is between platform and audience. Think of all the large meetings taking place this minute across the country—in the form of lecture sessions in schools and universities, congregational meetings in churches, weekly or monthly luncheon or dinner meetings of fraternal, civic, and professional associations, membership meetings of labor unions and voluntary associations, staff meetings in industrial concerns, government agencies, and hospitals, and meetings of dozens of other kinds. If it were possible to tally the total attendance at all such meetings in the course of a year, the figure would no doubt turn out to be several times the total population of the country, since each of us attends many large meetings each year. But I purposely qualify this method as a potential format for learning because I am convinced that relatively few of these meetings as they are now conducted produce much learning. Most of them consist simply of stereotypic speeches, occasionally with a formal question-and-answer period that usually falls flat.

I think that this is a situation that exists principally because the planners of large meetings don't have a good theory of large meetings, and that therefore it is a situation which could easily be remedied by the promulgation of an educational theory of large meetings. Accordingly, I should like to present a theory of large meetings as a format for adult learning.

Theory of Large Meetings

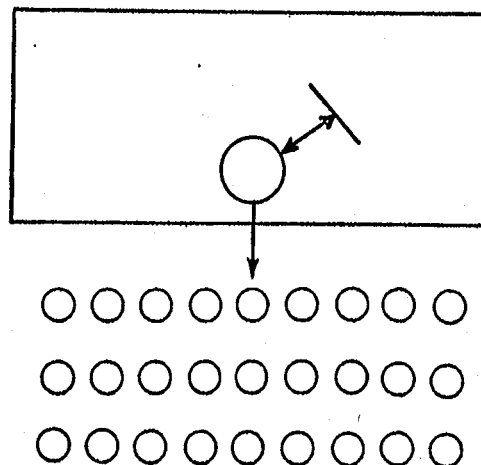
The basic premise of this theory is that the educative quality of a large meeting is directly a function of the quantity and quality of interaction in the meeting. This is to say, bluntly, that the more and better the interaction among the various elements of a large meeting, the greater the learning is likely to be. The second premise of the theory is that there are three loci or fields in which interaction can be manipulated: 1) the platform itself, 2) the audience itself, and 3) the relationship between platform and audience. Let us examine the possibilities of each in turn.

Interaction on the platform and between the platform and the audience is at its lowest ebb with a single speaker or film:



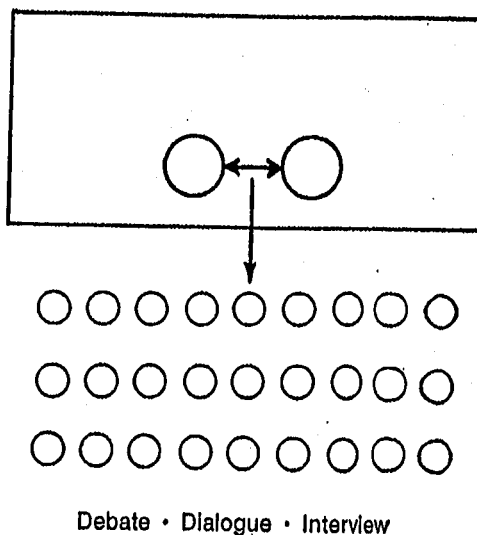
Lecture • Film • Audiovisual Presentation

The quantity of interaction on the platform (and, it is hoped, the quality, too, with good planning and coaching) can be moved up a notch by introducing a blackboard, flip chart, filmstrip, or some other visual aid for the speaker to interact with. Note, however, that the interaction between the platform and audience is not itself affected:

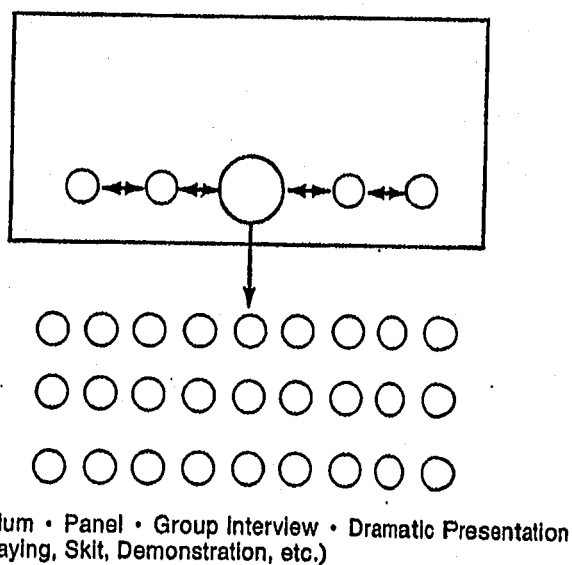


Visual Aid

The interaction strictly on the platform can be moved up a further notch by introducing one other person, so that two people are interacting before the audience in debate, dialogue, or interview:

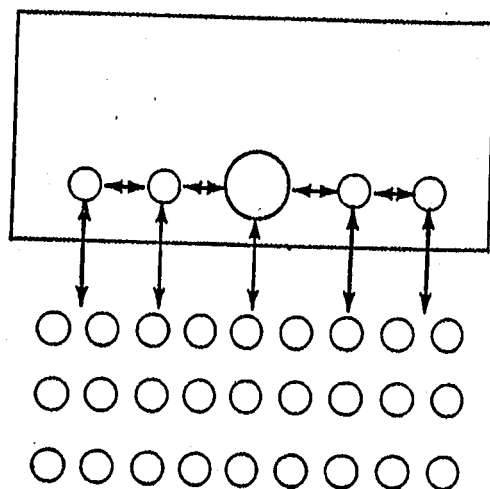


A next-higher level of interaction can be achieved by introducing two or more additional people to the platform in a symposium (series of statements), panel discussion, group interview, dramatic presentation, or demonstration:



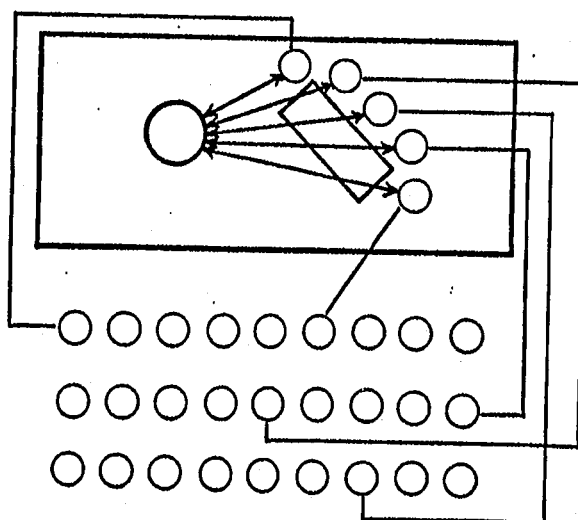
So far, the interaction between the platform and the audience and among the members of the audience has remained constant.

Interaction between the platform and the audience is at its first level up from passive with the invitation to the audience to ask questions of the speaker or other platform resources, as illustrated in the case of multiple platform personalities:



Symposium • Panel • Group Interview • Dramatic Presentation
(Role Players, Skit, Demonstration) with questions from audience
directed through chairman or directly to panel members, etc.

A still-higher level of interaction between the platform and the audience may be achieved by bringing representatives of the audience onto the platform to serve as reaction or watchdog teams. An audience-reaction team is asked simply to listen to the presentation and then to give their reactions either in a series of statements or through panel discussion. A watchdog team is asked to listen for language or concepts they think members of the audience might not fully understand, and to interrupt the presentation at any time and ask for clarification. To the extent that the people selected to serve on the panels are truly representative of the main characteristics of the audience (age, occupation, special interests, sex, geography), to that extent will the audience psychologically identify with the interaction on the platform:

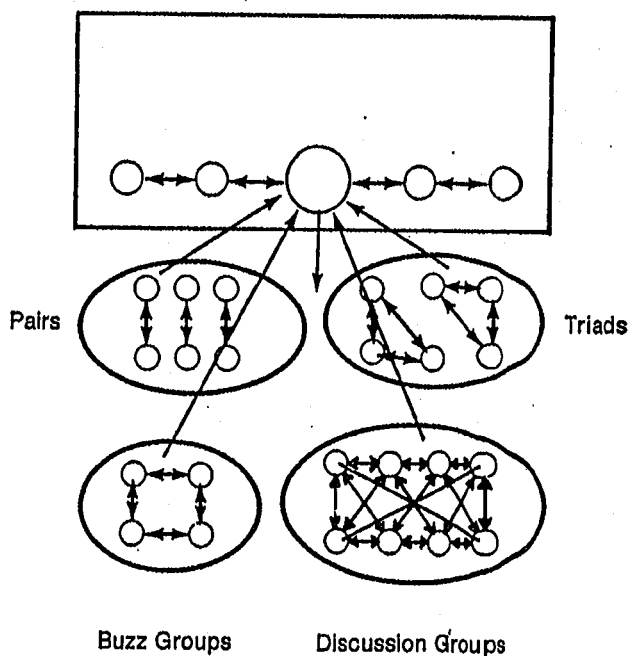


Audience Reaction or Watchdog Teams

Interaction among the members of the audience (which, incidentally, also further increases the interaction between the platform and audience) can be promoted in several ways. The audience can be asked to pair into groups of two, or get into a triad of three, or form buzz groups of from four to six persons without moving from their seats and perform any of several functions: 1) before presentation, they can be asked to identify problems or raise questions they would like the speaker to talk about, thus in effect outlining the speech for the presenter (which I refer to as an "inductive lecture"); 2) before a presentation the audience can be divided into four geographical sections and be asked to serve as "listening teams"—one section to listen to the presentation for points requiring clarification, another for points with which they disagree, another for points they wish to have elaborated on, and the fourth for problems of practical application they wish discussed. After the presentation, the teams are asked to "buzz" for a few minutes to pool their thinking about the points they want raised and select a spokesperson; then the spokespersons are called on to present the questions or issues to the speaker; 3) following a presentation, the audience can be asked to form buzz groups to discuss for a few minutes how they are going to apply the information contained in the presentation, and then a sample of the audience can be called on to report the ideas generated in the discussions.

Probably the highest level of interaction between all elements of a large meeting can be achieved by not having predetermined platform personalities at all, but by having the audience meet in separate rooms as work groups or committees to work on some common assignment and then come together in a meeting hall, with spokespeople for the groups (or a sample of them) going to the platform to report and pool their findings. The most effective device for accomplishing this composite reporting is not a series of separate reports, but an "inquiring reporter" interviewing the spokespersons as a group and polling the audience by a show of hands on issues and conflicts arising from the interview.

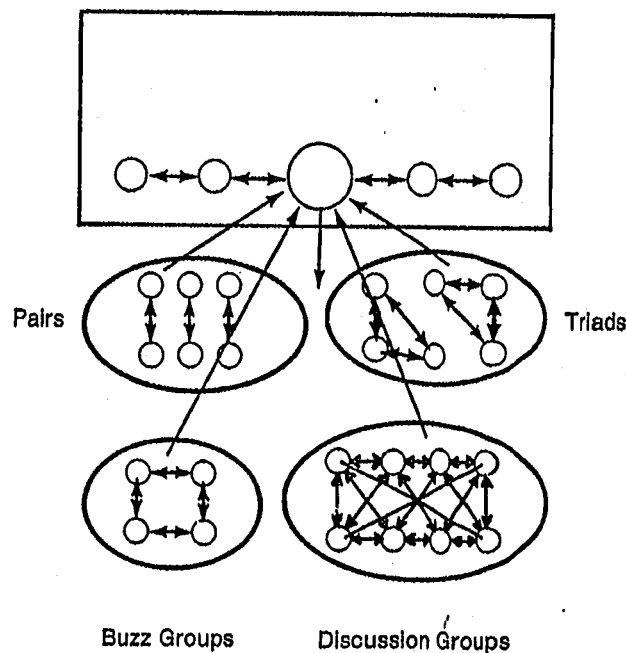
This optimal interaction pattern is portrayed graphically as follows:



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This optimal interaction pattern is portrayed graphically as follows:



LISTENING TEAMS

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DEFINITION - Three to five members in each of a number of groups in an audience listen for pre-determined specific categories of things in the presentation (lecture, film, etc.). After this each group generates those different categories of questions to be asked and responded to, one at a time in turn, by the presenter, who is knowledgeable in the subject presented.

CATEGORIES OF QUESTIONS

1. What points in the presentation need to be clarified?
2. What are points in the presentation with which you disagree and/or would like to take issue?
3. What points in the presentation do you wish to have elaborated on?
4. What problems of practical application of the material from the presentation do you wish to have discussed?

SEQUENCE

- Presentation
- Teams asked to "BUZZ" for a few minutes to pool their thinking about the points they want raised
- Each team select a spokesperson
- Spokespersons are called on to present, one at a time, the questions or issues to the speaker.
- Speaker responds till all questions or issues are exhausted.

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AUDIENCE PARTICIPATION

TECHNIQUE - GROUP INTERVIEW FORUM

- Opinions and facts are given spontaneously by a group of persons selected from the audience and interviewed. Questions asked relate to any aspect of the previous presentation: the content and/or the process. Questions prepared by a designated person or spontaneous from the audience or leader.
- Subsequently, the remainder of the audience is asked to form small buzz groups to discuss for a few minutes how they are going to apply the information contained in the presentation and the first group's response.
- Buzz groups select a spokesperson.
- A sample of the spokespersons from the buzz groups can be called on to report the ideas generated in the discussions.

1. How does your selection and use of a particular educational technique fit into your understanding of the way people learn or change (learning theory)?
2. What position does this educational technique hold in the context of learning objectives toward which you are working in this educational experience (learning design)?
3. What immediate and observable needs does this educational technique meet at this time with these participants (specific relevance)?

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SUPPLEMENTARY ADDITIONAL MATERIALS