





## PREPARING THE LEARNER

It was not until 1995 (Knowles, 1995) that it became apparent that this step needed to be added as a separate step to the process model. Previously the process model had consisted of only seven steps, all of which will be discussed in this chapter. However, it became increasingly apparent that an important aspect of program design flowed from the adult educational models. They assume a high degree of responsibility for learning to be taken by the learner; in the andragogical and learning projects models, especially, the entire systems are built around the concept of self-directed learning. But by and large, the adults we work with have not learned to be self-directing inquirers; they have been conditioned to be dependent on teachers to teach them. And so they often experience a form of culture-shock when first exposed to truly adult educational programs.

For this reason, designs of programs for new entrants are increasingly including a preparatory learning-how-to-learn activity. This activity may range from an hour to a day in length, depending on the length and intensity of the total program, and consists of the following elements:

1. A brief explanation of the difference between proactive and reactive learning.
2. A short experience in identifying the resources of the participants (who knows what, or who, has had experience doing what) and establishing collaborative, I-Thou (rather than It-It) relationships with one another as human beings. For this exercise, groups of four or five participants are recommended.
3. A mini-project in using the skills of proactive learning, such as reading a book proactively or using a supervisor proactively.

It has been our experience that even a brief experiential encounter with the concepts and skills of self-directed learning helps adults to feel more secure in entering into an adult educational program. For a manual on how to help people become self-directed learners, see Knowles (1975). (See also Brookfield, 1986; Daloz, 1986; Long et al, 1988; Moore and Willis, 1989; Robertson, 1988; Rountree, 1986; Smith, 1988.)

## ESTABLISHING A CLIMATE CONDUCIVE TO LEARNING

Just as we have witnessed in the past decade a growing concern for the quality of our environment for living, so during the same period there has been increasing concern among educators for the quality of environments for learning. From the ecological psychologists we have begun to obtain valuable information about the effects of the physical properties of environment on learning. The social psychologists have taught us much about the effects of the human environment—especially the quality of interpersonal relations. And from the industrial psychologists have come many useful insights about the effects of the organizational environment—the structure, policies, procedures, and spirit of the institution in which learning takes place.

The physical environment requires provision for animal comforts (temperature, ventilation, easy access to refreshments and rest rooms, comfortable chairs, adequate light, good acoustics, etc.) to avoid blocks to learning. More subtle physical features may make even more of an impact. Ecological psychologists are finding, for example, that color directly influences mood; bright colors tend to induce cheerful, optimistic moods, and dark or dull colors induce the opposite.

If you are saying, “But what can I, a mere educator, do about the color of my institution?” let me share an experience I had several years ago. I was meeting with a class of about 50 students in a large classroom in the basement of one of our university buildings. The windows were small and transmitted very little light, so we had to have the yellow ceiling lights on all the time. The walls were painted dusty institutional beige, and two walls were ringed with black chalkboards. During the third meeting of the class, I became conscious of the fact that this class wasn’t clicking the way most classes do, and I shared my feeling of discouragement with the students. It took them no time at all to diagnose the problem as being the dolorous environment of our meetings.

One of our learning/teaching teams agreed to experiment with our environment at the next meeting. They went to the dime store and bought brightly colored construction paper and a variety of other materials and objects, the total cost of which was under \$5, and

made collages for the walls, mobiles for the ceiling and simulated flagstones for the floor. What a happier mood characterized our fourth meeting!

Ecological psychologists also suggest that the size and layout of physical space affects learning quality. In planning the new Kellogg Centers for Continuing Education during the past several decades, great emphasis was placed on providing small discussion-group-sized rooms in close proximity to larger general-session-sized rooms. All of them are provided with round, oval, or hexagon-shaped tables to encourage interaction among the learners. (Alford, 1968; Knowles, 1980, pp. 163–165.) This concern for environmental facilitation of interaction among the learners is supported by the behaviorists' concept of immediacy of feedback, the importance placed on the learner having an active role is supported by Dewey, and the utilization of the constructive forces in groups is supported by field theorists and humanistic psychologists. (See especially, Alford, 1968; Bany and Johnson, 1964; Bergevin and McKinley, 1965; Jaques, 1984; Leypoldt, 1967; Mouton and Blake, 1984; Zander, 1982.)

Another aspect of the environment that all theorists agree is crucial to effective learning is the richness and accessibility of resources—both material and human. Provision of a basic learning resources center with books, pamphlets, manuals, reprints, journals, films, film strips, slides, tapes, and other audiovisual aids and devices is a minimal requirement. In no dimension of education have there been more explosive developments in recent times than in educational media—closed circuit television, videotape and portable videotape machines, cassette audiotapes, technimation, teaching machines, multimedia systems consoles, a variety of information retrieval systems, amplified telephones (for teleconferences), learning center systems, language laboratories, computer-assisted instruction, and commercially produced simulations and games. (See Rossi and Biddle, 1966.)

The important thing is not just that these resources are available but that learners use them proactively rather than reactively—although mechanistic and organismic theorists disagree on this.

Regarding the human and interpersonal climate, there are useful concepts from many theories. Behaviorists, although not very concerned with psychological climate, would acknowledge that it may

reinforce desired behaviors, especially in motivation and transfer or maintenance of learning. An institutional climate in which self-improvement is highly approved (and even better, concretely rewarded) is likely to increase motivation to engage in learning activities. And a climate that approves and rewards new behaviors will encourage the maintenance of these behaviors, especially if it allows frequent practice of these new behaviors. This is why supervisors who learn Theory Y behaviors in an outside human relations laboratory so frequently revert to Theory X behaviors after returning to a Theory X environment.

Cognitive theorists stress the importance of a psychological climate of orderliness, clearly defined goals, careful explanation of expectations and opportunities, openness of the system to inspection and questioning, and honest and objective feedback. The cognitive theorists who emphasize learning by discovery also favor a climate that encourages experimentation (hypothesis-testing) and is tolerant of mistakes provided something is learned from them.

Personality theorists, especially those who are clinically oriented, emphasize the importance of a climate in which individual and cultural differences are respected, in which anxiety levels are appropriately controlled (enough to motivate but not so much as to block), in which achievement motivations are encouraged for those who respond to them and affiliation motivations are encouraged for those who respond to them, and in which feelings are considered to be as relevant to learning as ideas and skills. They prescribe a “mentally healthful” climate. (See, especially, Waetjen and Leeper, 1966.)

Humanistic psychologists suggest that we create psychological climates experienced by the individuals in them as safe, caring, accepting, trusting, respectful, and understanding. The field theorists among them especially emphasize collaboration rather than competitiveness, encouragement of group loyalties, supportive interpersonal relations, and a norm of interactive participation. The andragog would include these characteristics under the heading, “An Atmosphere of Adulthood,” but would give added emphasis to the conditions of mutuality and informality in the climate.

The notion of an organizational climate involves several sets of ideas. One set has to do with the policy framework undergirding the HRD program. In some organizations personnel development is relegated to peripheral status in the policy framework (and therefore, there is not much reinforcement of motivation to engage in it).

But contemporary organization theorists (Argyris, Bennis, Blake, Drucker, Likert, Lippitt, MacGregor, Odiorne, Schein) assign it a central role in the achievement of organizational goals, and this is the trend among at least the largest organizations. (For examples of policy statements, see Craig and Bittel, 1967, pp. 493–506; and Knowles, 1980, pp. 274–294.)

Another set of ideas regarding organizational climate has to do with management philosophy. As discussed earlier in this chapter, a Theory X management philosophy provides an organizational climate that almost dictates mechanistic models of training, and a Theory Y philosophy requires an organismic (and probably humanistic) model of HRD.

A third aspect of organizational climate, closely related to the second and possibly a part of it, is the structure of the organization. A number of studies have shown that in hierarchically structured organizations there is less motivation for self-improvement and more blocks to learning (such as high anxiety) than in organizations more functionally structured such as by interlinked work groups or by project task forces. (See Marrow, Bowers, and Seashore, 1968; Katz and Kahn, 1966; and Likert, 1961, 1967.) The rapid growth of quality circles in recent years is another manifestation of this trend.

Organizational climate is also affected by financial policies. At the most primary level, the sheer amount of financial resources made available to HRD influences attitudes toward personnel development all the way down the line. When employees see that their organization values HRD highly enough to support it liberally, they are likely to value it—and vice versa. And if in times of austerity, it is the first budget to be reduced, it will come to be seen as a peripheral activity. Perhaps the ultimate signal that an organization has a deep commitment to human resources development is when the HRD budget is handled as a capital investment (like a new building) rather than as an operating cost. (See Carnevale, 1983; Eurich, 1985.)

Finally, a most crucial determinant of climate is the reward system. All learning and teaching theorists would jump on the S-R theorists' bandwagon in acknowledging that those behaviors (including engaging in education) that are rewarded are likely to be maintained. Accordingly, in those organizations in which participation in the HRD program is given obvious weight in wage and salary increases, promotion, and other job emoluments, the climate will certainly be

more conducive to learning than in organizations in which the attitude is that learning should be its own reward.

In my own andragogical model, climate setting is probably the most crucial element in the whole process of HRD. If the climate is not really conducive to learning, if it doesn't convey that an organization values human beings as its most valuable asset and their development its most productive investment, then all the other elements in the process are jeopardized. There isn't much likelihood of having a first-rate program of educational activities in an environment that is not supportive of education.

This emphasis on organizational climate has grave implications for the role of the human resources developer, for it implies that of the three roles Nadler and Nadler (1970, pp. 174–246) assign to him or her, by far the most critical is the role of consultant, within which the most critical subroles are those of advocate, stimulator, and change agent. If the human resources developer sees himself or herself essentially as a teacher and administrator, managing the logistics of learning experiences for collections of individuals, then he or she will have little influence on the quality of the climate of his organization. Only if the human resources developer defines the client as the total organization, and his or her mission as the improvement of its quality as an environment for the growth and development of people, will he or she be able to affect its climate. This means that the human resources developer must perceive management to be a prime target in his or her student body, and all the line supervisors as part of his or her faculty. In this conceptualization, training is not a staff function; it is a line function. The job of the human resources developer is to help everybody be a better educator.

The theories most relevant to this set of functions are those of systems analysis (Baughart, 1969; Bushnell and Rappaport, 1972; Davis, 1966; Handy and Hussain, 1969; Hare, 1967; Hartley, 1968; Kaufman, 1972; Leibowitz, Farren, and Kay, 1986; Optner, 1965; and Schuttenberg, 1972); and change theory, consultation, and intervention theory [Arends and Arends, 1977; Argyris, 1962, 1970; Bennis, 1966; Bennis, Benne, and Chin, 1968; Blake and Mouton, 1964, 1976; Eiben and Milliren, 1976; Goodlad, 1975; Greiner, 1971; Hornstein, 1971; Lippitt, 1969, 1978; London, 1988; Martorana and Kuhns, 1975; Nadler, Nadler, and Wiggs, 1986; Tedeschi, 1972; Tough, 1982; Watson, 1967; Zurcher, 1977.)

## CREATING A MECHANISM FOR MUTUAL PLANNING

One aspect of educational practice that most sharply differentiates the pedagogical from the andragogical, the mechanistic from the organismic, and the “teaching” from the “facilitating of learning” schools of thought is the role of the learner in planning. In the first half of each of the above pairs responsibility for planning is assigned almost exclusively to an authority figure (teacher, programmer, trainer). But this practice is so glaringly in conflict with the adult’s need to be self-directing that a cardinal principle of andragogy (and, in fact, all humanistic and adult education theory) is that a mechanism must be provided for involving all the parties concerned in the educational enterprise in its planning. One of the basic findings of applied behavioral science research is that people tend to feel committed to a decision or activity in direct proportion to their participation in or influence on its planning and decision making. The reverse is even more relevant: People tend to feel uncommitted to any decision or activity that they feel is being imposed on them without their having a chance to influence it.

It is for this reason that the most potent HRD programs almost always have planning committees (or councils or task forces) for every level of activity: one for organization-wide programs, one for each departmental or other functional group program, and one for each learning experience. There are guidelines for selecting and utilizing these planning groups that will help to assure their being helpful and effective rather than the ineffectual nuisances that stereotypic committees so often are. (See Houle, 1960, 1989; Knowles, 1980, pp. 72–78; Shaw, 1969; Trecker, 1970.)

Merely having mechanisms for mutual planning will not suffice. Members of the planning group must be treated in good faith, with real delegation of responsibility and real influence in decision making, or the process will backfire. Avoid playing the kind of game that Skinner (1968) cites (whether with approval or not, I can’t quite tell) from Rousseau’s *Emile*:

Let [the student] believe that he is always in control though it is always you [the teacher] who really controls. There is no subjugation so perfect as that which keeps the appearance of

freedom, for in that way one captures volition itself. The poor baby, knowing nothing, able to do nothing, having learned nothing, is he not at your mercy? Can you not arrange everything in the world which surrounds him? Can you not influence him as you wish? His work, his play, his pleasures, his pains, are not all these in your hands and without his knowing it? Doubtless he ought to do only what he wants; but he ought to want to do only what you want him to do; he ought not to take a step which you have not predicted; he ought not to open his mouth without your knowing what he will say. (p. 260)

## DIAGNOSING THE NEEDS FOR LEARNING: CONSTRUCTING A MODEL

Constructing a model of desired behavior, performance, or competencies is an effective vehicle for determining learning needs. There are three sources of data for building such a model: the individual, the organization, and the society.

To the cognitive, humanistic, and adult education (andragogical) theorists, the individual learner's own perception of what he or she wants to become, what he or she wants to be able to achieve, and at what level he or she wants to perform is the starting point in building a model of competencies; to the behaviorists, such subjective data are irrelevant. (And, incidentally, andragogs prefer competencies—requisite abilities or qualities—whereas the behaviorists prefer behavior—manner of conducting oneself—or performance.) It is not assumed that the learner necessarily starts out contributing his or her perceptions to the model; he or she may not know the requisite abilities of a new situation. The human resources developer has some responsibility for exposing the learner to role models he or she can observe, or providing information from external sources, so that the learner can begin to develop a realistic model for himself or herself.

Organizational perceptions of desired performance are obtained through systems analyses, performance analyses (Mager, 1972), and analyses of such internal documents as job descriptions, safety reports, productivity records, supervisors' reports, personnel appraisals, and cost-effectiveness studies.



developer providing the learners with the tools and procedures for obtaining data and making responsible judgments about their level of development of the competencies. Humanistic psychologists would urge the human resource developer to provide a safe, supportive, nonthreatening atmosphere for what could be an ego-deflating experience. Behaviorists have developed a variety of feedback-yielding tools and procedures that can be adapted to the self-assessment process.

Examples of programs that incorporate the most advanced concepts and technologies of model-building and discrepancy-assessment in industry are the ROCOM Intensive Coronary Multimedia Learning System (ROCOM, 1971), the General Electric Corporation Career Development Program (Storey, 1972), and the Westinghouse Electric Company's Executive Forum. In higher education outstanding examples are Alverno College in Milwaukee, Holland College in Prince Edward Island, the McMaster University Schools of Nursing and Medicine in Hamilton, Ontario, and the University of Georgia School of Social Work. Other sources of information about tools and procedures for diagnosing needs for learning are "Hospital Continuing Education Project" (1970, pp. 7-34); Ingalls and Arceri (1972; pp. 20-34); Knowles (1980, pp. 82-119, 1984); and Tough (1979, pp. 64-75).

## FORMULATING PROGRAM OBJECTIVES

At this point we hit one of the raging controversies among theorists. Behaviorists insist that objectives are meaningless unless they describe terminal behaviors in very precise, measurable, and observable terms. Gagne (1965), for example, defines an objective as

a verbal statement that communicates reliably to any individual (who knows the words of the statement as concepts) the set of circumstances that identifies a class of human performances.

The kind of statement required appears to be one having the following components:

1. A verb denoting observable action (*draw, identify, recognize, compute*, and many others qualify; *know, graph, see*, and others do not)
2. A description of the class of stimuli being responded to (for example, "Given the printed statement  $ab + ac = a(b + c)$ ")

3. A word or phrase denoting the object used for action by the performer, unless this is implied by the verb (for example, if the verb is “draw,” this phrase might be “with a ruling pen”; if it is “state,” the word might simply be “orally”)
4. A description of the class of correct responses (for example, “a right triangle,” or “the sum,” or “the name of the rule.” (p. 243)

Mager (1962) gives some practical guidelines for defining objectives:

1. A statement of instructional objectives is a collection of words or symbols describing one of your educational intents.
2. An objective will communicate your intent to the degree you have described what the learner will be DOING when demonstrating his achievement and how you will know when he is doing it.
3. To describe terminal behavior (what the learner will be DOING):
  - a. Identify and name the overall behavior act.
  - b. Define the important conditions under which the behavior is to occur (givens and/or restrictions and limitations).
  - c. Define the criterion of acceptable performance.
4. Write a separate statement for each objective; the more statements you have, the better chance you have of making clear your intent.
5. If you give each learner a copy of your objectives, you may not have to do much else. (p. 53)

Moving up the scale from the behaviorists, Taba—with a more cognitive orientation—gives “principles to guide the formulation of objectives”:

1. A statement of objectives should describe both the kind of behavior expected and the content or the context to which that behavior applies.
2. Complex objectives need to be stated analytically and specifically enough so that there is no doubt as to the kind of behavior expected, or what the behavior applies to.

3. Objectives should also be so formulated that there are clear distinctions among learning experiences required to attain different behaviors.
4. Objectives are developmental, representing roads to travel rather than terminal points. [Note that at this point Taba departs sharply from the behaviorists.]
5. Objectives should be realistic and should include only what can be translated into curriculum and classroom experience.

The scope of objectives should be broad enough to encompass all types of outcomes for which the school [program] is responsible. (Taba, 1962, pp. 200–205.)

In elaboration on her last point, Taba (1962, pp. 211–228) develops a classification of objectives by types of behavior.

- Knowledge (facts, ideas, concepts)
- Reflective thinking (interpretation of data, application of facts and principles, logical reasoning)
- Values and attitudes
- Sensitivities and feelings
- Skills

Building on the thinking of Tyler (1950), as did Taba, Houle (1972, pp. 139–312) identifies these attributes of objectives.

- An objective is essentially rational, being an attempt to impose a logical pattern on some of the activities of life.
- An objective is practical.
- Objectives lie at the end of actions designed to lead to them. Objectives are usually pluralistic and require the use of judgment to provide a proper balance in their accomplishment.
- Objectives are hierarchical.
- Objectives are discriminative.
- Objectives change during the learning process.

Houle goes on to give guidelines for stating objectives. Educational objectives may be stated in terms of the desired accomplishments of the learner. Educational objectives may also be stated

in terms of the principles of action that are likely to achieve desired changes in the learner. The understanding and acceptance of educational objectives will usually be advanced if they are developed cooperatively. An objective should be stated clearly enough to indicate to all rational minds exactly what is intended. In many teaching and learning situations, but particularly in those sponsored by institutions, objectives can be stated not only in terms of the outcomes of education but also in terms of changes in the design components that will presumably make those outcomes better (facilitative objectives) (Houle, 1972, pp. 147–149).

Theorists who see learning as a process of inquiry expressly (and sometimes rather vehemently) reject the idea that there should be preset or prescribed objectives at all. Schwab (1971), for example, takes an unequivocal position.

Educators have long been accustomed to ask at this point in a curricular discussion, “What is the intended outcome?” The question arises from the dogma that curriculums should be devised, controlled, and evaluated in the light of “objectives” taken as the leading principles. Consideration of the practical character of curriculum and instruction convinces me that this dogma is unsound . . . . I do not intend or expect one outcome or one cluster of outcomes but any one of several, a plurality. Recognizance of the several stems from consideration not of possible outcomes, but of the materials under treatment: pluralities of theory, their relations to the matter they try in their various ways to subsume, their relations to one another. (p. 540)

In his analysis of how adults actually engage in independent learning projects, Tough (1979) found that goals tended to emerge organically as part of the process of inquiry, with various degrees of clarity and preciseness, and to be continuously changing, subdividing, and spawning offspring.

Maslow, with his conception of self-actualization as the ultimate aim of learning, also sees goal formation as a highly dynamic process occurring through the interaction of the learner with his experience.

As might be expected, such a position has certain implications for helping us to understand why conventional education in the United

States falls so far short of its goals. We shall stress only one point here—namely, that education makes little effort to teach the individual to examine reality directly and freshly. Rather, it gives the person a complete set of prefabricated spectacles with which to look at the world in every aspect (e.g., what to believe, what to like, what to approve of, what to feel guilty about). Rarely is each person's individuality made much of, rarely is he or she encouraged to be bold enough to see reality in his or her own style, or to be iconoclastic or different (Maslow, 1970, p. 223).

Other theorists focus primarily on developing the skills of self-directed inquiry, holding that all other substantive learning objectives flow from the process of accomplishing this one (Allender, 1972, pp. 230–238).

Perhaps these differences in viewpoint on objectives are partly reconcilable by assigning the more terminal-behavior-oriented procedures to training and the more inquiry-process-oriented procedures to education, much the way we handled teaching models in Table 5-3. Even then, according to andragogical theory, the learner is likely to resist unless he or she freely chooses them as being relevant to his or her self-diagnosed needs. Among the most helpful treatments of the process of formulating objectives in adult education are Brookfield (1986, pp. 209–220); “Hospital Continuing Education Project” (1970, pp. 35–46); Houle (1972, pp. 136–150, 200–212); Ingalls and Arceri (1972, pp. 35–42); and Knowles (1980, pp. 120–126).

## DESIGNING A PATTERN OF LEARNING EXPERIENCES

To the behaviorists, program design is essentially a matter of arranging contingencies of reinforcement so as to produce and maintain the prescribed behaviors. To cognitive and inquiry theorists, it is a matter of arranging a sequence of problems that flow according to organic stages of development, and providing appropriate resources for the solving of these problems by the learner (Bruner, 1966, pp. 71–112; Suchman, 1972, pp. 147–159). To the third-force psychologists, it is a matter of providing supportive environments (usually relatively unstructured groups) in which the participants (learners and trainers together) can help one another grow in existentially determined directions (Rogers, 1969).

Adult education theorists have tended to build design models into which aspects of all these approaches can be fitted. The three most recent are by Knowles, Tough, and Houle (in order of publication). The andragogical design model involves choosing problem areas that have been identified by the learners through self-diagnostic procedures and selecting appropriate formats (individual, group, and mass activities) for learning, designing units of experiential learning utilizing indicated methods and materials, and arranging them in sequence according to the learners' readiness and aesthetic principles. [Ingalls and Arceri, 1972, pp. 43–49; Knowles, 1980, pp. 127–154].

Tough (1979) employs the concept of a learning project consisting of a series of related episodes as his basic framework for program design. A program would consist of a number of simultaneous individual and group learning projects, each project having been collaboratively planned by learners and selected helpers and carried on at the learners' initiative. The learners could use the whole gamut of human resources (experts, teachers, colleagues, fellow students, people in the community) and material resources (literature, programmed instruction devices and software, audiovisual media) almost without regard for the theoretical orientation underlying them. Even the most didactic teacher or linear teaching machine program will be used proactively rather than reactively by a self-directed learner.

Houle (1972) has developed a fundamental system of educational design, which was described in outline in Chapter 4 and is recapitulated in graphic form in Table 5-4.

## OPERATING THE PROGRAM (CONDUCTING LEARNING ACTIVITIES)

This element of the program development process is concerned focally with the human resources developer's role as administrator, and learning/teaching theories have very little to say about this role. Nadler and Nadler (1970, pp. 202–231) describe the functions associated with this role, and ideas about how to carry them out andragogically are developed by Ingalls and Arceri (1972, pp. 54–62) and Knowles (1980, pp. 155–197).

I see the centrally crucial factor in program operation to be the quality of faculty resources. The current manpower sources for

teachers of HRD activities contain people who know how to teach only in the traditional pedagogical fashion, since this is the way they were taught or were taught to teach. You can't rely very much on selection procedures to provide you with good teachers. You have to train them yourself, through both pre-service and in-service educational programs. I would say that the single most critical aspect of your role as program administrator is your function as a developer of human resources development personnel. (See Knowles, 1980, pp. 159–162.)

## EVALUATING THE PROGRAM

Here is the area of greatest controversy and weakest technology in all of education, especially in adult education and training. As Hilgard and Bower (1966) point out regarding educational technology in general, “It has been found enormously difficult to apply laboratory-derived principles of learning to the improvement of efficiency in tasks with clear and relatively simple objectives. We may infer that it will be even more difficult to apply laboratory-derived principles of learning to the improvement of efficient learning in tasks with more complex objectives” (p. 542). This observation applies doubly to evaluation, the primary purpose of which is to improve teaching and learning—not, as is so often misunderstood, to justify what we are doing. One implication of Hilgard and Bower's statement is that difficult as it may be to evaluate training, it is doubly difficult to evaluate education.

Donald Kirkpatrick's (Craig and Bittel, 1976, pp. 18–1 to 18–27; Kirkpatrick, 1971, pp. 88–103) conceptualization of the evaluation process is the most congruent with andragogical principles and the most practical of all the formulations seen to date. He conceives of evaluation as four steps, all of which are required for an effective assessment of a program.

The first step is reaction evaluation, getting data about how the participants are responding to a program as it takes place—what they like most and least and what positive and negative feelings they have. These data can be obtained through end-of-meeting reaction forms, interviews, or group discussions. It is usually desirable to feed back data from one session at the beginning of the next session, so that indicated program modifications can be negotiated.

The second step is learning evaluation, which involves getting data about the principles, facts, and techniques that were acquired by the participants. This step should include both pretests and posttests, so that specific gains resulting from the learning experiences can be measured. Performance tests are indicated (such as operating a machine, interviewing, speaking, listening, reading, writing, etc.) for skill learning. Either standardized or tailor-made information-recall tests or problem-solving exercises can be used to gauge knowledge. Such devices as attitudinal scales, role-playing or other simulations, or critical-incident cases may yield helpful progress in attitude-learning.

The third step is behavior evaluation, requiring data such as observers' reports about actual changes in what the learner does after the training as compared with what the learner did before. Sources of this kind of data include productivity or time-and-motion studies; observation scales for use by supervisors, colleagues, and subordinates; self-rating scales; diaries; interview schedules; questionnaires; and so on.

The fourth step is results evaluation, data for which are usually contained in the routine records of an organization—including effects on turnover, costs, efficiency, frequency of accidents or grievances, frequency of tardiness or absences, quality control rejections, and the like.

The main difficulty in evaluation, as in research, is in controlling the variables sufficiently to be able to demonstrate that it was the training that was mainly responsible for any changes that occurred. For this reason, Kirkpatrick recommends using control groups whenever possible. The more recent works on program evaluation have tended to continue and deepen this emphasis on results (Brinkerhoff, 1986; Harris and Bell, 1986; Rae, 1986; Swanson and Gradous, 1987).

All learning and teaching theorists acknowledge the importance of evaluation. Behaviorists maintain that evaluation is built into their very process—when a learner makes an error in a frame of a teaching machine program, it shows up immediately and corrective action is taken, and if a program doesn't produce the prescribed behavior, it is modified until it does. They insist that evaluation is intrinsic to their process—not something that happens at a different time from learning. To some degree, Kirkpatrick's reaction evaluation employs this principle.

Cognitive theorists stress the importance of the learner's ability to retrieve and apply information to new problems as the key to evaluation, which is what learning evaluation is essentially about. Field theorists and humanistic psychologists emphasize the translation of learning into behavior back home or in the field (the humanists, of course, stressing self-actualizing behavior), which is the purpose of behavior evaluation. Organization theorists point out that unless desirable results can be demonstrated, management will withhold support from training—which is the essence of results evaluation.

I should like to add a fifth dimension—one that springs directly from the fundamental conception of adult education as continuing education: rediagnosis of learning needs. If every learning experience is to lead to further learning, as continuing education implies, then every evaluation process should include some provision for helping the learners re-examine their models of desired competencies and reassess the discrepancies between the model and their newly developed levels of competencies. Thus, repetition of the diagnostic phase becomes an integral part of the evaluation phase.

What has been said above describes the state of the art in program evaluation until relatively recently. But starting around 1977, the leading theorists and practitioners in the field of program evaluation began making almost a 180-degree turn in their very way of thinking about evaluation. During the preceding 40 years, there had been a growing emphasis on quantitative methods of evaluation. The norm was set that if evaluation didn't have numbers and statistics attached to it, it wasn't respectable. In the late 1970s, evaluators began having second thoughts about what they were learning from their quantitative evaluations that was making so much difference in what was happening in programs. They began to realize that there is a difference between measurement and evaluation.

Evaluation, they began to report in the literature, requires getting inside the skulls of the participants—and inside the social systems in which they are performing—and finding out what is happening in their way of thinking, feeling, and doing. This is qualitative evaluation. It requires using such methods as participant observation, in-depth interviews, case studies, diaries, and other ways of getting “human” data. By getting the whole picture of “real-life” effects of a program first, they were then able to determine what quantitative data were needed to correlate real outcomes with program operations.

So now the state of the art involves both quantitative and qualitative data, but with the qualitative coming first. The results have been astounding. So much more useful information is being obtained from this combination. The best current sources of information about this new development are Cronbach (1980), Guba and Lincoln (1981), and Patton (1980, 1981, 1982). This turn of events becomes even more convincing when one realizes that all of these people made their first reputations as leaders of the quantitative evaluation movement.

## CONTRACT LEARNING—A WAY TO PUT IT ALL TOGETHER

Without question the single most potent tool I have come across in my more than half-century of experience with adult education is contact learning. It has solved more problems that plagued me during my first 40 years than any other invention. It solves the problem of the wide range of backgrounds, education, experience, interests, motivations, and abilities that characterize most adult groups by providing a way for individuals (and subgroups) to tailor-make their own learning plans. It solves the problem of getting the learner to have a sense of ownership of the objectives he or she will pursue. It solves the problem of identifying a wide variety of resources so that different learners can go to different resources for learning the same things. It solves the problem of providing each learner with a visible structure for systemizing his or her learning. Finally, it solves the problem of providing a systematic procedure for involving the learner responsibly in evaluating the learning outcomes.

I now use learning contracts in all of my academic courses and in the in-service education programs in educational institutions, industry, and the professions in which I am a consultant. Learning contracts are being used by a number of continuing professional development programs in medicine, nursing, dentistry, engineering, social work, and the ministry.

## THE EVOLVING MEANING OF HUMAN RESOURCES DEVELOPMENT

As I see it, human resources development is more than just a higher sounding name for what we have always done. It is not just a synonym for training or in-service education or management



6. Community resources, including educational institutions and commercial providers
7. Professional associations

The second question the human resource developers will then have to ask is, “How can we make more effective use of these resources for the systematic and continuous development of our people?” And some of the answers they might come up with might look like this:

1. Scheduled instructional activities could be redesigned so as to be more congruent with principles of adult learning. The resource people conducting them could be given special training on how to treat learners as adults.
2. The line supervisors and managers could be exposed to the idea that their role is not just to supervise work, but to develop their people as well. Substantial blocks of time could be built into the supervisory training and management development programs dealing with the principles of adult learning and the skills of facilitating learning. The human resources developers and their staffs could be available to the line officers as consultants in performing their role as facilitators of learning.
3. The materials and media could be selected according to their congruence with the theory of learning appropriate to the situations in which they will be used. They can be made more accessible to all the people in the system than is often the case now.
4. Information about the remaining resources—content specialists, other individuals, community resources, and professional associations—can be collected and put into a data bank, which can serve as a clearinghouse or educational brokering center. (See Heifernan, Macy, and Vickers, 1976.)
5. Learning contracts—developed as an integral part of the supervisory process—can provide the means for helping individuals make use of all these resources in a systematic program of continuous self-development.

As systems of learning resources evolve, the human resources developers must increasingly radiate a professional confidence. It will no

longer suffice to be a good learning specialist, a good administrator, and a good consultant. They will have to know more than learning specialists, administrators, and consultants know. They will have to know a new theory of human resources development and possess a new set of skills in applying that theory to their systems. How much more rewarding this role will be!

## REFLECTION QUESTIONS

- 6.1 Discuss the implications of dealing with the learning process first and then content, versus dealing with content and then the learning process.
- 6.2 Report on a personal experience where the climate was not conducive to learning. Cite ideas from the chapter that speak directly to the situation.
- 6.3 Why is the idea of program/learning objectives so controversial?
- 6.4 Discuss the purpose and process of program evaluation and then comment on the primary evidence that you think (1) would satisfy the learner, (2) the facilitator, and (3) the agency financially underwriting the program.