10 Improving self-planned learning

What can we do to facilitate and improve self-planned learning? As a first step toward answering the question, this chapter presents some empirical data on what goes wrong during the help-seeking process. Then the chapter examines various ways of improving the learner's competence at planning his own learning, and of providing better help for him.

Getting Help is Often Difficult

Many persons would welcome more and better help with their self-planned learning. They often experience difficulties in obtaining some of the help they do receive. They cannot perform all the necessary preparatory steps unaided, yet they fail to obtain all of the help that they seek or want. Few men and women have special training in planning a learning project. In addition, if the learner is operating in a subject matter area that is quite new to him, he will be unfamiliar with the structure of the subject, the best sequence for learning it, and the resources available.

Many things can go wrong during his attempts to get help. He may encounter difficulties and frustration at any point in his efforts to obtain help, and these problems may seriously affect his feelings and efficiency.

The impact of these difficulties in obtaining help became very clear to one researcher during 16 interviews. Vida Stanius, during a study of the difficulties that arise in the help-seeking process, noted the following: "The negative effects [of difficulties with help] can be picked out from the interviews – frustration, anger, confusion, procrastination, diminished enthusiasm, lack of motivation, and a vow never to go to a particular helper again. Several delays in a project were mentioned, and one suspension. Sometimes the person questions the quality of the learning because of the other negative aspects he experiences throughout the project. When something goes wrong with getting help, this can snowball into several other difficulties."

What Goes Wrong?

There are several ways to study the question of what goes wrong. After deciding to use the various stages of the help-seeking process as a framework, we distinguished six stages or phases that the learner may go through in order to obtain appropriate advice, information, encouragement, or other help. Table 13 presents, in the left-hand column, the six chronological stages. Any particular difficulty in the help-seeking process can be fitted into this framework.

Most of the difficulties occur *between* two adjacent stages. That is, the learner achieves one stage successfully but fails to achieve the next one. The right-hand column of the table summarizes the difficulties that may occur at each point in the chronological framework. Only the seventh difficulty (G) occurs *during* a particular stage; the others are defined as a failure to reach the next stage.

Table 13 helps us to see the points in the help-seeking process at which problems, breakdowns, and failures occur. The right-hand column provides a framework for the discussion on the next few pages.

In our small study of what goes wrong in the help-seeking process, Vida Stanius interviewed 16 adults intensively. Each adult described his difficulties in obtaining the help he needed during one self-planned learning project. The stage at which each difficulty occurred, and the frequency and impact of that difficulty, were recorded.

The most frequent and serious locus of difficulties in Table 13 was F, with G a close second. That is, the greatest difficulties usually occurred during contact with the person, book, or other resource, rather than earlier in the process. Certain persons would not or could not give the required help, and certain printed materials were useless. Even when beneficial help was received from certain resources, much of it cost the learner a great deal of time, money, effort, or frustration. The least troublesome points in the right-hand column were A and B.

From the standpoint of efficiency in any learning project, there will be an optimum amount of help for each of the preparatory steps. Many learners seek and receive that optimum amount. When difficulties do occur, they usually occur in the direction of seeking or obtaining too little help. We must also note the possibility, though, of a learner seeking and obtaining far too much help (because of his incompetence at estimating the optimum amount of help, perhaps, or because of his emotional or personality characteristics).

A. Unaware of needing help

In almost every self-planned learning project, the person does become aware of needing help. Some learners, though, expect to get along with just printed materials. They may experience considerable difficulty and frustration before realizing their need for a *human* helper.

B. Uncertain about which steps need help

A few learners give little thought to their learning procedures. After interviewing one woman, for example, Stanius reported that "she was quite vague about the sorts of help she needed. She later felt that this hampered her learning and that she would have saved much time and effort if she had been more thoughtful sooner." In addition, the subject matter area may be so new or technical for the learner that he cannot figure out just what help he needs, or even what preparatory step to take next. A third problem occurs when a learner reaches stage 4 or 5 before completing stage 2 successfully. He may seek help blindly because he is lazy, dependent, or completely confused.

C. Uncertain how or where to get help

In some learning projects, the person is unable to decide what procedure to follow in order to obtain the needed help. He does not know a particular resource that is likely to be useful. Stanius interviewed several adults who knew the sort of person they needed, or the sort of knowledge such a person should have, but who were unable to think of a particular individual. They were clear about their needs, but could not think of an acquaintance who fitted those requirements. We do not know whether such a person was, in fact, readily available to the learner. The point is, though, that the learner was not *aware* of such an individual, and consequently could not move on to stage 4 in the help-seeking process.

Some learning projects probably shift direction or end prematurely because of difficulty in deciding how to obtain the subject matter or other help. The person wants to learn something, but the lack of appropriate help and resources (or his inability to find them) reduces his actual learning.

Rieger and Anderson (1968) asked adults to identify skills or areas of knowledge in their everyday activity about which it had been particularly difficult to obtain useful and reliable information. About 25% of the sample listed one or more subjects. It is interesting that urban residents and those with a high educational level were especially likely to report difficulty. The common areas listed were financial matters, community and national affairs, consumer information, and occupational problems and practices.

To illustrate the variety of information that can be difficult to obtain, I decided to recall examples of my own difficulties. I was able to list several topics on which I encountered great difficulty in finding accurate, helpful, relatively unbiased information. Yet I could clearly specify my needs, was strongly motivated to learn, and was willing to spend some money. My list includes the following areas of knowledge and skill: a printer's procedures and requirements; how to operate a movie projector; finding an out-of-print book; yearbook layout; various types of insurance; building a bookcase; finding an apartment in Chicago's Hyde Park area;

moving procedures and movers; differences between American and Canadian banking systems; income tax during dual-status years; appropriate exercise; storing and preparing food; life style and basic problems in India; savings institutions; family budget procedures; finding a publisher.

D. No action

Although he is clear about his needs and how to satisfy them, the learner may still hesitate to actually seek that help. This may seem rather surprising before one looks at the learner's perceptions and characteristics.

One woman failed to realize that her project was a very difficult one. The interviewer felt she also failed to seek advice because she was self-reliant, stubborn, and afraid of criticism. Another woman mentioned three examples of not seeking help because she was lazy, she hesitated to bother people for help, and she felt people would not be interested in her project. Other learners may be shy, may feel that requesting assistance is childish and inappropriate, or may feel that a great deal of effort would be required in getting help.

Some learners hesitate to seek help because of their bad experiences in the past. After being rebuffed once or twice, or after several resources turn out to be a waste of time, the learner may refuse to seek further help. There are many anecdotes about such situations. Two of my favorite involve acquaintances of mine who were about 35 at the time of the respective incidents. One of these men asked a professor in a Spanish department for advice on which materials to use for learning vocabulary. My friend was shaken up by the reply: he was too *old* to learn Spanish. The other acquaintance decided to learn to play the piano. At his first (and last) lesson, though, the teacher gave him a book with a childish cover that referred to "tiny tunes for little fingers."

E. Unable to reach the resource

Even if he does take some action to obtain a specific resource, a learner may be blocked. One woman reported that her learning was hampered by wasted time, frustration, and inability to find a certain reference book – all because she could not reach a certain individual.

It would be interesting to study which sorts of resources are especially difficult to obtain, and to determine just what the difficulties are.

F. Difficulties during contact with the resource

Our data indicate that most learners experience some difficulty in getting help from at least one or two particular resources during their contact with those resources. All but one of the 16 interviewees in our small study reported this problem, and several

reported two or three examples of it. The learner obtains or reaches the desired resources, but fails to get the specific help he needs from at least one of them. What goes wrong?

Table 13 / A Framework for Studying What Goes Wrong During the Help-Seeking Process

Six stages in the help-seeking process	The difficulties and breakdowns that occur
	A. The learner does not develop even a general vague awareness of any need for help.
Stage 1: The learner becomes aware of needing help, although the awareness is vague and general.	
	B. He does not know, clearly and accurately, which of his specific preparatory steps would benefit greatly from help.
Stage 2: He becomes clear on the preparatory step with which help is needed, and/or on just what sort of help is needed.	
	C. He believes he does not know how or where to seek the desired help.
Stage 3: He knows or decides how to seek that help, or from what type of resource or what particular resource to seek it.	
	D. He knows how to get help, yet he does not take action.
Stage 4: He actually seeks the help or resource.	
	E. He tries without success to reach a particular resource.
Stage 5: He receives, reaches, or makes contact with a particular resource.	
	F. During his contact with that resource, certain characteristics of the resource, situation, or learner result in his failure to actually obtain the desired help.
Stage 6: He gets the desired help from that particular resource.	G. He does obtain the desired help, but only at great cost in time, money, effort, or frustration.

Sometimes the learner simply chooses the wrong resource. In a sense, he has gone astray at stage 3, but this does not become evident to him until his contact with the resource. The learner may choose a convenient person or close friend, rather than the person with the best ability to help. Just as a young child may seek most help from his parents, an adult may habitually turn to the same neighbor or friend whenever he needs help. One member of our research team, Ray Devlin, hypothesized that some adults never think of turning to a remote helper because throughout childhood they received almost all of their help from nearby peers, teachers, and parents.

Some individuals who are approached for help simply do not have the information that the learner needs, or they lack the capacity to give the desired help. Some are impatient with the learner and prefer to take over the whole project themselves. Some are unwilling to help the learner, or are not interested in him or his subject matter. Some individuals are insensitive to the learner's real needs, and provide the same sort of advice or information in response to all requests. A helper may be so far above the learner's level of knowledge that he cannot communicate effectively. Some other possibilities are suggested in Appendix C, which deals with the relationship between helper and learner.

Sometimes the difficulties seem to reside in the situation rather than in the helper or the learner. For example, too many learners may simultaneously be seeking help from the same person. Or the learner and helper may be unable to communicate easily and accurately because they come from different cultural backgrounds.

Many learners realize that they themselves are at fault – not the situation or the resource. The learner may fail to communicate his needs clearly and accurately. He may not ask the right questions. He may be such a novice that he does not know what he really wants from the helper. The learner may be tense when he is with the helper, may be a little fearful of him, or may try very hard to please him. A learner may hesitate to accept suggestions and information because of such irrelevant factors as the helper's age, background, appearance, or status. For no apparent reason, the learner may dislike or distrust the helper.

In some helping situations, the learner assumes that the helper will take all of the initiative and responsibility, and will do all the work. The learner believes he can just sit back and receive all the necessary advice and content he needs without effort. Such a learner may fail to express his real needs and to evaluate what he hears.

We have just seen that many things can and do go wrong during the learner's contact with a potential helper. What is the ultimate effect of these difficulties? The answer is somewhat surprising and contradictory. Delays, discouragement, wasted time, and a reduction of motivation are common results. But, instead of quitting, most interviewees in our study became even more persistent in seeking the needed help. Some of them tried other helpers who proved to be satisfactory. Often a learner's motivation and effort will actually increase as the result of someone's indifference.

Printed resources, too, can fail to provide the expected sorts of help. Adults

What competence is needed?

Just what types of competence are needed to make a self-planned learning project successful? Clearly it is important for every adult – and every younger person, too – to have a reasonably good ability to choose the subject matter and the planner, as was pointed out in Chapters 6 and 7. If the person decides to direct the learning project himself, he needs several further sorts of competence.

The self-planner must be competent in knowing which preparatory step to perform next. Instead of deciding to let some object, person, or group perform most of these preparatory steps, he has decided to perform them himself. This will require skill in diagnosing his current problems and needs, and in deciding just which preparatory steps to perform at any given time.

He also needs competence in actually performing those preparatory steps. In one learning project or another he will probably have to perform each one of the 13 steps we listed, some of which require a great deal of competence. In order to decide the learning activities, for example, the self-planner must be familiar with certain general principles of learning and behavior change, and with his own style of effective learning. In order to change certain habitual behavior, he may need skill in establishing some feedback mechanism for measuring his day-to-day performance. He might benefit from greater skill in finding appropriate resources in a library or bookstore, using reference books and bibliographic tools, and finding appropriate human help.

The more competent he is at performing each of the preparatory steps, the less help he will need. But almost every learner does seek and obtain at least some help. Many difficulties can arise during these efforts to obtain help, as we saw earlier in this chapter. Consequently, the learner can benefit greatly from being competent in each stage of the help-seeking process.

At the very early stages, for example, he must be able to diagnose fairly precisely and accurately just what help he needs. He must figure out which preparatory steps could be performed much more efficiently with help, and what the optimum (most efficient) amount of help would be. Then he must choose an appropriate resource for providing the help, and must successfully reach or obtain that resource. During contact with the resource, the learner must be competent at gaining the desired help.

Eventually the learner should be able to analyze and plan the entire learning process in any project, taking whatever actions are needed to maintain the successful flow of learning. Whenever necessary, he should be able to evaluate his progress and efficiency, diagnose difficulties, seek appropriate help, and plan the next steps. In short, he should always be "on top of the whole situation," comfortably and competently in control, seeking advice whenever necessary, but never relying too heavily on that advice.

Competence at actually doing the learning, not only at planning and arranging it, is also necessary. In almost any learning situation, the learner needs certain minimum

skills in listening, taking notes, reading, memorizing, or performing some other learning activity. Such learning skills or "study habits" may be especially important when professional assistance is not readily available.

The increased efficiency that can result from a mastery of high-speed reading techniques is particularly impressive. Thousands of adolescents and adults have gained skills in previewing material at thousands of words per minute, in setting clear goals, and then in gaining the desired knowledge in a minimum of time. Selecting and using a variety of paces and techniques, a person can read an easy book in 20 minutes, a weekly newsmagazine in 10, a newspaper in 4. Learning through reading becomes a very effective and rapid process. Perhaps even more important, the person's confidence increases along with his competence: he no longer hesitates to tackle any book or topic, no matter how formidable.

Feelings and attitudes about self-planning

In the first interviews I conducted about self-planned learning, I was surprised at the typical attitudes of people toward their own self-planned learning (Tough, 1967, pp. 39-40, 75, 77). When I stated at the beginning of the interview that I was interested in the person's recent learning, the initial response was often a self-deprecating remark. The person's initial perception seemed to be that he had not done any learning at all during the past year, and any learning he had done was unimportant or of low quality. Many said their learning was very strange or offbeat – not at all like that of other people.

Although these initial self-deprecating comments were sincere, they were very unrealistic. By the end of each interview it was evident that the person had learned a great deal, had spent a large amount of time at learning, and had used a variety of methods. His actual learning had been much greater and better than his initial attitude suggested.

As we come to understand these attitudes, we will probably be able to help learners develop a more accurate image of their learning. More and more people will realize that self-planned learning projects are a common, natural, and important activity of many persons.

The competent self-planner is realistic about the potential power of self-planned learning, and about his own limits. He is aware of the total pattern of his own self-planned learning, and is confident about his ability to plan and conduct such learning successfully. He is never stopped from initiating a learning project because of a false notion that it will be a threatening, unpleasant, frustrating chore.

Methods

Several methods could help a person to improve his competence at self-planning. A new center or self-education bureau might be useful. A counselor, perhaps using a

questionnaire, could help the person analyze his skills and weaknesses in planning. With this procedure, the person could decide just what additional planning and learning skills he wants to develop. The counselor could also help him choose an appropriate strategy for gaining these skills. In addition, this center or counselor might help learners with their ongoing learning projects. Such help could increase the learner's skill in planning along with his other knowledge and skill.

Parents, libraries, clubs, and employers could all play some role in developing competence at planning. Adult education institutions might sponsor a group program devoted to developing this skill.

A book on how to plan for learning could help the reader understand the tasks, problems, and feelings that a learner faces, and suggest steps he can take to deal with these. It could contain questionnaires or other methods for diagnosing one's own weaknesses in planning and learning, and for setting corresponding objectives.

Various books on how to study are already available, and some of them are excellent for full-time students or for adults returning to the classroom. But few if any of these books try to develop skills as a *planner*, and few of them deal with learning projects outside of academic educational institutions. Instead, they emphasize *learning* skills, such as how to concentrate and improve your memory, make notes, improve reading speed and writing style, and prepare for examinations. These skills are important, but they are not enough.

Schools and colleges also develop skill in passing courses rather than in conceiving, refining, planning, and guiding one's own learning projects. They deal primarily with a learning situation in which an instructor rather than the learner himself is responsible for most of the objectives, planning, requirements, and even resources. The learner's task, in this case, is to learn the subject matter chosen by the instructor.

Even within this context, though, efforts to help students increase their learning competence are becoming increasingly important. Courses in effective reading and effective writing are common, and courses in study habits or "learning how to learn" are developing.

The importance of these efforts has been demonstrated by a study in the United Kingdom (Jahoda & Thomas, 1965). The authors concluded that "one of the most surprising findings of our studies is that most students are almost unaware of how they learn. At best they have a sort of undeveloped folklore of fetishes and home remedies to which they have become too closely wedded because it has 'succeeded so far.' It would appear that quite large increases in the effectiveness of university education are possible through fairly simple improvements in the students' basic skills [p. 55]." They recommend that "emphasis should be put upon encouraging students to become increasingly aware of how they learn and to question, experiment with, and thus develop the effectiveness of a wide range of learning skills [p. 55]."

If educators in schools and colleges really want to prepare their students for a lifetime of learning, they should certainly think more about how to develop self-planning skills. Adolescents and college students already conduct many

self-planned learning projects outside of their educational institution, as we saw in Chapter 8. Though few educators and schools even notice or care about such learning projects, the student's out-of-school learning may prepare him better for adult learning than his in-school experiences do.

Adult education programs and advanced graduate programs could also make a major contribution toward increasing competence in self-planned learning. At present they may do just the opposite: they may increase the person's tendency or need to rely on someone else.

We need several innovative pilot programs that are oriented toward developing the learner's competence at self-planning. Penetrating, meaningful evaluations of these pioneer programs will provide information useful for improving them. Several research projects, and some attention to theorizing, will build up a body of knowledge to serve as a foundation. These various activities will interact, each one stimulating and contributing to the others.

This further work will result in a much larger number of highly competent learners – learners with excellent ability in diagnosing, planning, and arranging their learning; learners able to obtain appropriate help with a minimum of time and effort; learners who foresee the potential difficulties in obtaining help, but strive to learn none-theless – learners willing to surmount all sorts of obstacles with the ease and good humor of crosscountry runners.

Better Help With the Planning

The ideal learner accepts the world of resources as it is, and learns in spite of his difficulties in obtaining help. This characteristic should not stop us, however, from trying to change that world in order to make his learning efforts more efficient and pleasant. The possibility of developing better help with the day-to-day preparatory steps is examined in this section.

It is interesting to speculate on adult learning in the future. What major changes will occur in adult learning, and in various forms of adult education, during the next 20 or 30 years? Some important changes will occur in what people learn, why they learn, and the total amount they learn. Changes in the help available for the adult learner will probably be even more significant. Human help with the major decisions about learning will be more available, effective, and individualized. Hardware and nonhuman resources will increasingly be tailored to the individual, or at least flexible enough to meet his needs.

Clearly adult learners need greatly improved help in various aspects of planning learning projects. Inadequate help results in countless wasted hours, inappropriate projects, and inefficient methods. Because of the lack of available help, the person may not even start the learning project in the first place. Yet, without learning, how can he deal effectively with his job, home, family, recreational activities, and finances?

The development of better help should be based on the characteristics and needs of the adult learner. We must ensure that the help suits *his* plans and needs and schedule as much as possible, rather than insisting that he accept a prestructured body of subject matter learned through a predetermined sequence of methods and activities.

The specific help that could be provided

The preparatory steps that face the self-planner provide one basis for thinking about better help. The 13 preparatory steps involved in planning and arranging learning episodes were listed in the previous chapter. (The preparatory steps for deciding what to learn, and some possibilities for better help with these early steps, were discussed in Chapter 6.) The 13 day-to-day preparatory steps are summarized in the left-hand column of Table 14, and the right-hand column presents some reflections on the help that is needed with each step.

A comprehensive source of help for the self-planner should be capable of helping with most of the 13 steps. If it cannot help with one or two, it should at least be able to help the learner find that assistance somewhere else. Table 14 indicates which steps will probably require the most help.

The self-planner will not require a massive amount of help. By definition, he assumes the primary responsibility for steps 1 and 2. In addition, the typical self-planner performs most of the preparatory steps by himself, seeking help with two or three that he finds especially troublesome. As he becomes more competent at planning and arranging his learning, he will need even less help.

Table 14 / Some Reflections on the Help Needed with Each Preparatory Step

Summary of the 13 preparatory steps	Some reflections on each step
1. Deciding detailed knowledge and skill.	Often a difficult but crucial decision. The most effective resource will usually be a subject matter expert, or a nonhuman resource dealing with the given subject matter. By definition, the self-planner makes this decision in the majority of episodes.
2. Deciding activities, materials, resources, and equipment for learning.	Probably the most important task in this list, and often the most difficult. By definition, the self-planner assumes the primary responsibility for these decisions. The best helpers (and the writers of the most helpful materials) will usually be expert in the subject matter and/or in the principles of learning. A librarian can help with decisions on nonhuman resources. Decisions must be highly appropriate for *this* particular learner.

Table 14 – Continued

Summary of the 13 preparatory steps	Some reflections on each step
3. Deciding where to learn.	Usually a brief, easy decision, unless it is difficult to find the desired equipment or facilities.
4. Setting specific deadlines or intermediate goals.	The best help may be simply suggesting this step and pointing out its advantages. This help can be provided by human or nonhuman resources.
5. Deciding when to learn.	Usually an easy decision.
6. Deciding the pace.	Rarely causes much difficulty.
7. Estimating level or progress.	This step is sometimes troublesome for the self-planner. Help can be human or nonhuman. It can range all the way from unconsciously showing the learner a higher level than he has yet reached (as in skiing), to sophisticated measurements of his current level or progress.
8. Detecting blocks and inefficiencies.	Often the learner can perform this step best. If not, a highly skilled diagnostician may be needed. The best help will be provided by a human rather than a nonhuman resource.
9. Obtaining or reaching resources or equipment.	Often requires only time and aggressiveness, not skill. A helper can smooth the way, however, or can even perform this step entirely, thus saving the learner a great deal of time and frustration. Most help will be human.
10. Preparing a room or other physical conditions.	Rarely difficult. Almost all help will be human.
11. Obtaining money.	Not much a helper can do, except lend or give the money.
12. Finding time for the learning.	A resource can offer advice. A human helper can take on some of the learner's time-consuming responsibilities.
13. Increasing motivation or dealing with motivational blocks.	Sometimes this step is necessary to avoid quitting. A skilled diagnostician familiar with the psychology of learning and motivation can sometimes be crucially important. Even forcing or berating the learner can occasionally be helpful. Help can be human or nonhuman.

Who will provide the better help?

To some extent, almost everyone may provide the improved help. Already the self-planner receives a great deal of help from his friends, relatives, and co-workers. In the future, perhaps most of these acquaintances will provide even better help because of certain training they receive. Thurman White (1965) has suggested that in the future one sort of skill required of each college graduate will be skill in helping others learn. One goal of parent education can be greater skill in helping children learn. Supervisory and management training can try to develop competence in helping subordinates learn appropriate knowledge and skill.

In addition, more comprehensive or sophisticated types of help might be provided by a variety of agencies. Libraries of all types – public, university, school, and special – are certainly logical centers for such help if they improve the variety and quality of their human and nonhuman help. Some new sort of learning consultant, helper, counselor, guide, or tutor might be trained. New bureaus to help adult learners might be set up by city governments, boards of education, the YMCA, or other voluntary agencies. Organizations might provide help for their employees or members, and educational institutions for their staff and students. Many of these agencies already help people learn, but their help could become much more individualized and useful for the self-planner.

Department stores or manufacturers might provide learning advisers for those who want to begin a certain hobby or consider some major purchase. Book stores, college residences, and hospitals are other possible locations for learning consultants. An association or union of those in a certain profession or occupation might provide learning advisers for their members.

Providing effective individualized help, both human and nonhuman, is also a responsibility of various government departments that is just as appropriate as group instruction and mass media instruction. Individualized help for adult learners is not necessarily more expensive than mass or group instruction if (1) we become more efficient than we are now at providing it, (2) it is provided only for appropriate individuals and subject matter, and (3) one looks at actual results, not just the number of persons who are reached.

In his chapter on the "autonomous" adult learner, Miller (1964) suggested that adult learners might benefit from a lounge or club. They could interact with other learners, and feel less isolated or strange as self-planners. Another possible format is a group of learners meeting to discuss their self-planned learning. They could help one another clarify goals, decide strategy, find resources, and increase motivation. One crucial aspect of effective help is the relationship between helper and learner. The significant variables in this relationship are discussed in Appendix C, which outlines a way of describing accurately the relationship between a human helper and the learner during a self-planned learning project. The last portion of the appendix describes some strong motivations for amateur teaching.

Table 5 indicated that nonhuman resources, too, can be helpful with some preparatory steps. These objects might include a book, computer, television program, or recording. A nonhuman resource can sometimes provide highly individualized help. One example is a 12-page booklet by Knowles (1961), which is designed for anyone who wants to improve his leadership skill. It helps him with preparatory steps 1 and 2. The booklet helps the reader list the leadership competencies (skills, attitudes, insight, and knowledge) that he wants to possess, rate his present level in each, and then develop an individual set of goals. For each of 15 different goals that the person might have, the booklet recommends the relevant pages in several different books.

Better Resources for the Learning Itself

Until now, this chapter has focused on planning and arranging the learning, not on the highly deliberate learning episodes. For the rest of this chapter, we will turn our attention to the learning itself. The learning episodes can include a variety of activities and methods, such as reading, watching television, reflecting, and practicing. The learner can also observe a natural phenomenon or someone displaying his desired skill.

Print

Reading printed material is an especially important learning activity in many self-planned learning projects. All 40 projects described in *Learning Without a Teacher*, for example, used some printed materials.

If he has reasonable skills in getting what he wants from printed sources, a learner finds that books and other printed materials provide a highly efficient and flexible way to learn. He can read the sections in whatever sequence he pleases, omit the irrelevant portions, and reread the difficult sections.

As more and more adults learn to scan print at thousands of words per minute, books may prove to be too slow and cumbersome. Instead, someone may invent a machine for displaying a continuous vertical scroll. The speed and direction of the scroll could be controlled by two foot pedals. A separate analytical table of contents could be displayed beside the machine. Access to printed words on a television screen or a similar screen may also become more common.

To deal with the flood of new knowledge and information, various systems using abstracts and key words are being developed. An individual may establish a profile of his interests, occupational specialities, and desired areas of information. These key words or subject matter areas are then used by an agency to determine which abstracts or news items to send him, thus weeding out much of the irrelevant material before it even reaches the learner. Even when he does receive the material, it may

be in the form of abstracts (summaries) rather than complete articles in a journal or newspaper. Using the telephone or a reply postcard, the learner can then order a more detailed version of any item he judges to be especially relevant for him. Cheaper or faster ways of getting the desired materials into the learner's hands will eventually be developed – perhaps a combination of television transmission and cheaper photocopying methods. One-hour delivery by car or motorcycle is another possibility.

The days of disseminating stock quotations, career opportunities, and information on expensive consumer purchases (houses for sale, product information) indiscriminately to a mass audience may be ending. Instead, the person who wants to check the value of his stocks, seek a new job, or buy a house or television set will convey his request to some central agency or bureau that will quickly provide him with the detailed information he needs.

Programmed instruction and computer-assisted instruction are also new ways of learning. By taking the learner through a subject step by step, with frequent testing, they help him learn efficiently. The sequence of steps is largely predetermined, though the use of a computer permits a fairly sophisticated sort of branching. These methods are sometimes called "individualized instruction" because they let the learner proceed at his own pace, unlike the classroom situation in which 20 or 40 students learn identical subject matter at an identical pace. Programmed instruction and computer-assisted instruction provide opportunities for highly efficient learning of certain subject matter that could not be learned nearly so efficiently 10 or 20 years ago. Incidentally, having just a few of the learning episodes controlled by a set of printed materials or a computer does not change the entire learning project from self-planned to object-planned. New forms of self-instructional workbooks may combine some of the principles of programmed instruction with characteristics that will help the person himself choose appropriate branches or paths, and help him apply his learning to practical situations. Highly sophisticated printed simulation materials provide additional new opportunities for learning that are far more effective than just reading about the topic.

Individually selected films and television programs

Although some new forms of printed materials are being developed, the self-planned learner's basic reliance on print is not new. One or two other ways of learning, however, provide dramatic (but relatively untapped) potential for self-planned learning.

One of these potential new ways of learning is the provision of *individually selected* films or television programs in the home or office. We all recognize that watching a film or television program is a highly effective way to learn, combining the gripping quality of ever changing color pictures and other visual stimuli with spoken words, music, and sound effects. So far, though, this powerful learning resource has not

really been made available for self-planned learning. Films are almost never viewed by one person alone in his home or office, and at any given time the typical television set offers a choice of only a dozen programs. Because the adults in one viewing area may be conducting learning projects on a hundred thousand topics in any one week, only a small proportion of these persons will find a highly relevant program on television.

Giving the learner access to thousands of films or programs, so that he can choose one or more that are directly related to his current learning project, will be a major innovation. The film or videotape he selects might then be transmitted individually to his home or office at whatever time he chooses, or the film or videotape might be delivered to him by truck or car within an hour or two of his request. Television sets with attached videotape players are already available, as are individual viewers for movies using foolproof cartridges. Presumably, in the future, the learner will be able to stop the film or videotape at any time in order to study a single picture in detail. He should also be able to replay any portion he wishes, control the speed within certain limits, and locate any particular portion quickly (Ely, 1970). A summary of the various systems that are being developed has been provided by *Time* (August 10, 1970).

In 1968, Ithiel de Sola Pool pointed out the likelihood of this shift in television from a mass medium to an individualized or interactive medium. He announced boldly that "we are at the beginning of an era in which the preferred communications devices need no longer have the quality of mass communications. Increasingly, communications devices will be adapted to individualized use by the consumer where and when he wants, on his own [p. 87]." An executive quoted by *Time* (October 10, 1969) called the new form of TV "personalized television," and stated that "mass programming will no longer completely satisfy the customer."

Already some public libraries lend films as well as records and printed materials. A brochure from a public library in a Toronto suburb, for example, points out that "films are ideal for home use because many families have their own projectors. The subject range represented is tremendous: films for pure fun are combined with travel films and information reels on cooking, sewing, drafting, electricity, woodwork, etc. There is something for all age and interest groups. Drop in at your nearest library branch and take home a film tonight!"

Television and print might be combined more frequently in the future. When a person watches a news story on television, for example, he might be able to obtain background information or more detailed printed information on news items of particular interest to him. These correlated printed materials could be mailed or delivered, or could be transmitted immediately by means of the television set itself and a photocopy attachment, or over telephone or teletype lines. In an interview for the January-February 1969 issue of *Think*, John Diebold predicted that reading "will be increasingly integrated with electronic technologies – and eventually even with biochemical fields. This integration is already beginning."

Experts

Enormous untapped potential can be found in another method of learning: talking with an outstanding expert in the field of knowledge or skill. Many experts, researchers, theorists, political leaders, athletes, professors, and others are willing to speak to groups. They might also be willing to answer questions for an individual for half an hour, on the phone or in person, perhaps for a large or a small fee. They might criticize the learner's present style, assumptions, or procedures. Many learners and employers would be willing to pay up to $50 or even more for a high-impact talk with a certain outstanding expert. Perhaps such an arrangement will become increasingly common and acceptable during the next few decades.

Travel

Travel is another powerful way to learn. While traveling, though, the tourist is often plagued by lack of complete up-to-date information on the opportunities available to him. Also, many travel booklets and bus tours are aimed at a mass audience of typical travelers, and ignore the variety of special interests and learning projects that travelers have. Perhaps students could serve as individual guides to answer the tourist's questions about the particular city or country, and to show him the aspects that are especially relevant to the tourist's personal interest. Tours of factories, homes, schools, farms, and villages could also be provided.

Information centers

A significant source of information in the United Kingdom is the neighborhood information center (Kahn, 1966). Without going far from home, a person can obtain information and advice on a variety of problems. These centers are especially useful when a person is uncertain of his rights and opportunities under various government policies. If the neighborhood information center cannot answer his question, he is referred to some other agency for the appropriate information or help.

Miscellaneous

Several other new and improved methods of learning already provide (or soon will provide) opportunities for learning that were not available 10 or 20 years ago. Videotape recorders enable the beginning teacher or salesman to observe his own performance. Encounter groups provide a variety of affective and interpersonal learning experiences for couples and families, as well as for the occupations and other clientele served by T-groups since the early 1950s. New simulation materials and equipment provide realistic but risk-free practice for increasingly complex skills and judgments. Language laboratories provide an effective but inexpensive way for the individual to learn a foreign language. Perhaps the Geoscope described by

Buckminster Fuller (1962) or flexible computer diagrams will be able to display certain phenomena and principles that cannot be effectively or accurately portrayed by film.

Helping the Learner Choose His Learning Resources

A dramatic gain in the effectiveness of self-planned learning projects will come from an increase in the number and effectiveness of printed materials, individually selected films and videotapes, accessible experts, and individualized travel opportunities. Such inventions can and probably will be produced with relatively little cost and technological difficulty. After becoming generally accepted, and when produced and distributed on a large scale, the cost to the individual learner (or his employer) will be quite reasonable.

These new methods of learning are not sufficient, however. They will not be used much unless parallel social inventions also occur. There is a crucial need for one or more corresponding devices or processes to help the potential learner discover and select the resources he needs. The availability of thousands of books, films, and experts is irrelevant to the learner unless he has a fairly quick way of selecting the ones most appropriate for his current learning project. In short, we must develop some parallel improvements in step 2 (Table 14).

I can see two basic ways to handle this function. One possibility is a liaison person who acts as a link between the learner and the wealth of available resources. He would do his best to understand the learner's current needs and level, and would then select the most appropriate resources for that learner. He might even order or deliver the resources himself, thus saving the learner this step. This liaison person would be thoroughly familiar with all available information retrieval systems, catalogs, bibliographic tools, and other resources. Consequently, the learner would not have to spend any time coming to understand this overwhelming array of information systems and resources.

The other possibility is to produce a variety of indexes, reviews, lists, bibliographies, and other printed tools for the learner himself. These ways of locating appropriate *printed* resources already exist. Many adults (and many students in schools and colleges emphasizing individual and independent work) are already highly skilled in their use. We need similar or better means of access to available films, videotape recordings, experts, and travel opportunities. The annotations in such lists might provide evaluations of the resource and estimates of the most appropriate audiences for it, as well as factual information about its content and level. For the beginning learner in each field or topic, a booklet might be produced to describe the various branches and subfields that he could learn about if he wants to proceed past the introductory level, and to describe the best resources available for each branch or topic.

We should probably try to develop both of these possibilities, not just one. In some subject matter areas, a particular learner could probably operate effectively himself if good indexes or lists were available; in others he would feel hopelessly lost. It is possible, too, that the liaison person would sometimes send the learner a detailed description of several suitable possibilities, leaving the final selection to him.

Computers

As computers become less expensive and easier to use, they may play an increasing role in helping learners find appropriate resources. The experts polled by Bjerrum (1969) predicted that, by the year 2000, computers will become as common as telephones or televisions in homes, will be used for instruction at home, and will cost less than 1% of their present price.

One example of the use of a computer was demonstrated at the University of Western Ontario in 1969 and 1970 (North & Forgie, 1970). The learners were Canadian volunteers preparing for service in West Africa. They used the computer to select appropriate materials from the varied collection. By typing key words, they received a list (including abstracts) of the relevant videotapes, films, slide sets, audiotapes, books, and vertical files. All of these materials were available and used in the same room as the computer terminals. The busy, varied, concentrated, effective learning going on in one room was the visitor's main impression.