

WHAT KINDS OF LEARNING STRATEGIS TEND TO FACILITATE LEARNING AMONG ADULT STUDENTS IN HIGHER EDUCATION

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ABSTRACT

The primary purpose of this paper is to examine several learning strategies which could be utilized in facilitating learning among adult students in higher education. Several sociological and psychological characteristics of adult learners, their teaching preferences, and aspects of learning and memory as well as motivation in adult education are discussed. These characteristics are then considered and integrated into the methods and techniques of adult teaching and learning. Recommendation are put forward for learning strategies which would facilitate learning among adult learners.

INTRODUCTION

Adult learners, or now commonly referred to as non-traditional older students, are becoming increasingly visible in educational settings today and are expected to provide an increasing proportion of the learning market in the future. According to a report in the Dallas Times Herald, November 1985 entitled "School Enrollment - Social and Economic Characteristics of Students", school enrollments for 1980 and 1981 showed that students aged 18 and 19 represented 25 percent of the total number of college students, declining from 31.6 percent in 1970. At the same time, the proportion of students aged 25 to 29 increased from 11.4 percent in 1970 to 14.2 percent in 1981. The proportion of students aged 30 to 34 nearly doubled between 1970 and 1981, increasing from 5 percent to 9.9 percent.

Snyder (1987) states that :

The number of older students has been growing more rapidly than the number of younger students. Between 1970 and 1985, the enrollment of students under age 25 increased by 15 percent. During the same period, enrollment of persons 25 and over rose by 114 percent. In the later part of this period from 1980 to 1985, enrollment of students under 25 decreased by 5 percent, while the enrollment of persons 25 and over increased by 12 percent. (p.116).

Lightner (1984) predicts an increase of 30% in the number of students 35 years old and over from 1984 to 1994.

This shifting student population means the educators face the challenge of designing appropriate learning environments that provide the non-traditional older students who want to upgrade their existing skills or acquire new skills with the best possible means to do so (Lumsden, 1985). It has been accepted that these older students differ from the traditional younger students in many respects (Courage, 1984). One which is evident concerns their learning needs.

Ross and Stokes (1984) believe that an understanding of the learning needs of non-traditional students is vital "for communication professionals to develop strategies meeting the non-traditional students' needs" (p.6)

SEVERAL SOCIOLOGICAL AND PSYCHOLOGICAL CHARACTERISTICS OF ADULT STUDENTS

Adult learners require teaching strategies that reflect their sociological and psychological characteristics (Ashmore, 1987). Haverkamp (1983) states that non-traditional students comprise a diverse body, "There are individual differences in motivations, goals, experience, moral and cognitive development, academic preparation, intelligence, initiative, employment background, skill levels, and sophistication" (p.3). Therefore, it is important that adult educators realize the immediate need to develop teaching strategies that would reflect their sociological and psychological characteristics.

Having compared psychological needs of non-traditional students to traditional students, Venable (1986) reports that the "older" students are less available, more independent, more motivated, less flexible, more responsible, more learning focused, more experienced, and exhibit less socialization expectation and more mutuality with the instructor. Intellectually, the non-traditional students demonstrate lower abstract reasoning, higher knowledge, lower complex data organization, lower short term memory, higher long term memory, and equivalent ability to learn when compared to traditional students.

Courage (1984) observes that the non-traditional students bring more life experiences with them, are responsible for other people, have a problem-centered rather than subject-centered orientation, have a high level of motivation, have tremendous diversity, and are insecure. Elsea (1980) investigates how the "world of work" orientation of non-traditional students affects their values and expectations. He comments that non-traditional students generally will have a more developed self-concept, more stable and established relationship patterns, a preference for pragmatism and an antipathy to theory.

Knowles (1984) recognizes that adults have "... a deep psychological need to be seen by others and treated by others being capable of self-direction. They resent and resist situations in which they feel others are imposing their wills on them" (p.56).

Overstreet (1949) pictures the adult learner as the mature person whose mental habits are such the he/she grows in knowledge and the wise use of it. Knowles (1980) elaborates that maturing individuals experience dependence to autonomy, passivity to activity, subjectivity to objectivity, ignorance to enlightenment, small abilities to large abilities, few responsibilities to many responsibilities, narrow interests to broad interests, selfishness to altruism, self-rejection to self-acceptance, amorphous self-identity to integrated self-identity, focus on particulars to focus on principles, superficial concerns to deep concerns, imitation to originality, need for certainty to tolerance for ambiguity, and impulsiveness to rationality.

TEACHING LEARNING PREFERENCES OF ADULT STUDENTS

Generally, literature on adult education supports the notion that teaching adults requires a different approach compared to teaching children and adolescents. This is based on "informed professional opinion; philosophical assumptions associated with humanistic psychology and progressive education; and a growing body of research and theory on adult learning, development and socialization" (Beder & Darkenwald, 1982, p.143).

By contrasting "andragogical" or learner-centered methods with "pedagogical" or teacher-centered methods, Knowles (1984) argues that adults differ from preadults in a number of important ways that affect learning and consequently, how they approach learning. He goes on to develop an andragogical model which has the following assumptions :

1. Adults tend to be self-directing
2. Adults have a rich reservoir of experience that can serve as a resource for learning.
3. Since adult's readiness to learn is frequently affected by their need to know or do something, they tend to have a life-task, or problem-centered orientation to learning as contrasted to a subject-matter orientation.
4. Adults are generally motivated to learn due to internal or intrinsic factors as opposed to external or extrinsic forces.

Although this andragogical model has undergone some modifications since it was first proposed, it has strongly influences the field of adult education.

Two studies (Beder & Darkenewald, 1982; Gorham, 1984) examined the andragogical approach to teaching adults by investigating the following question : Do teachers teach adults in a different way and if so, what are these differences? In both studies, respondents reported significant differences in teaching styles. When teaching adults, teachers spend less time on discipline and giving directions, provide less emotional support to student, structure instructional activities less tightly, and vary their teaching techniques more. Beder and Darkenewald also found significant differences in adult classes in greater use of group discussion, more adjustment in instructional content in reaponse to student feedback, and greater relationship of class material to student life experiences. Groham (1984) observes that a non-traditional, less-formal room arrangement (e.g., chairs in a circle) that put the teacher in closer proximity to the students led to a "clear use of the more student-centered approach prescribed for teaching adults" (p.79).

From an analysis of 119 questionnaires, Check (1984) found that the non-traditional student prefers an eclectic theoretical approach to teaching and learning. The respondents strongly endorsed learning by insight, indicating that their favored mode of learning was through the lecture and discussion approach. They preferred an outline of the lecture. Although previous studies show that adult learners prefer a great deal of freedom in choice of course content, findings of this study did not support this. As expected the adult learner does take notes during the lecture; this same learner was also assigned a term paper as a requirement of the course . The adult learner accepts the practice of testing; however, a large majority of the adults wanted a test that included both objective and subjective items.

Cross and Zusman (1977) have noted two instructional needs of non-traditional students. They are : the "Need for appropriate learning methods and delivery of education" (p.41) and "Need for content appropriate to goals" (p.41). Buchanan and Sherman (1981) also highlights the need for a diversity of instructional models in teaching non-traditional students. Cross (1980) states that "There seems to be a need for more active modes of learning". Similarly, Webb and Carras (1981) concludes from their view of recent studies that non-traditional students" see themselves as participants, not receivers in the learning process" (p.370).

LEARNING AND MEMORY CONCEPTS IN ADULT EDUCATION

Two basic types of learning have attracted the most attention in research on learning in adulthood : rote learning and mediated learning.

Rote learning required that an association is acquired repetitively and mediated learning is where the learner utilizes a visual or verbal mediator that has been acquired. Learning and memory will be more effective, particularly in younger adults, with more active rehearsal or the more efficient use of a mediator by the individual (Schmeck, 1983).

Most researchers agree that learning involves at least three stages : 1. the intake of the information through one of the senses; this is often considered to include a) a very brief storage of the information in its sensory form, b) "movement" of the information to short-term memory, which occurs when one's attention is focussed on the information and c) placing the information in long-term memory after some rehearsal, 2. storage of information, generally in the long-term memory in a way that allows the information to be found and recognized at a later time, and 3. searching for, retrieving, and providing the information in an appropriate manner. The learning studies have shown that older people may have difficulty with each of these steps and that it is important to identify the circumstances that aid or hinder successful achievement of each step (Peterson, 1983).

Memory is defined as a more abstract process, also dependent upon experience, but not necessarily tied to a specific situation, as in learning (Kausler, 1982). Although memory is commonly defined as a conscious recollection of some prior experience, psychologists use the term more broadly, to refer to a wide variety of changes in the nervous system that result from experience and that can effect behavior. Conscious awareness is not considered a critical defining attribute of a memory.

Kausler (1982) distinguishes memory into two types : generic or semantic memory which refers to memory for general rules or basic meaning and episodic memory which refers to memory for specific events. By learning the material either rote or through the use of mediators, one's memory for specific events or general rules may be enhanced.

Most of life - span research on learning and memory has been focussed on primary and secondary memory. The bulk of such research shows that primary memory is relatively stable across adulthood (Poon, 1985). Secondary memory becomes active when the limits of primary memory are exceeded. To retain a piece of information, it must be continuously rehearsed, processed or organized. Adequate rehearsal permits information to enter the tertiary (long term) store which is nearly limitless and permanent in nature. Deficits with age in tertiary memory are difficult to detect.

Adult learner, because they are older are more experience and educated, may actually appear to show poorer long-term memory because what they have stored is more complex and extensive. They put a lot of pressure on their encoding, storage and retrieval skills. On the contrary, it may appear that younger people who have less material to search through are likely to have better memories. However, this is not so. Older people with a larger storage of information may be able to recall accurately a greater percentage of what they know. They can recall

more information removed from the present because they can efficiently encode and store (rehearse) information that is more personally meaningful to them (Hayslip & Panek, 1989).

MOTIVATION IN ADULT EDUCATION

Lovell (1984) defines motivation as the process which leads the individual to attempt to satisfy some need. Generally, older people are less motivated when confronting a learning task than younger people. As such, they perform less well because they are less motivated. Obviously, one way to motivate them is to make the learning more meaningful. Older people learned significantly more of the highly meaningful material than of material that was medium or low in meaningfulness and that understanding the needs and wants of the older learner and directing the content toward those meaningful areas will result in greater motivation as well learning (Calhoun & Gounard, 1979).

Several research have pointed out the decline in abstract behavior with increased age (Botwinick, 1978). Older people had an extremely difficult time completing learning tasks involving abstract elements (forms, colors, numbers) but when the elements were changed to more concrete items (beverages, meats and vegetable), the older learners accomplished the task more easily (Arenberg, 1968).

Studies have shown that older learners perform poorly on learning fast if they are too anxious or so motivated as their emotional state interferes with cognitive processes. One way of overcoming this overarousal is by providing a supportive learning situation where correct responses are rewarded and even if they are wrong (errors of commission). Rewarding the learner, particularly the older adult for making errors of commission as well as correct responses improves performance (Leech & Wittle, 1971). By being supportive and rewarding any response, right or wrong, the chances for the individual becoming inappropriately aroused (thus interfering with learning or memory) or anxious are reduced (Kookken & Hayslip, 1984).

METHODS AND TECHNIQUES IN ADULT EDUCATION

This section looks at some of the methods and techniques which could be utilized to enhance the instructional and learning process of the non-traditional student.

LEARNING CONTRACTS

This is a formal agreement written by a learner which details what will be learned, how the learning will be accomplished, the period of time involved, and the specific evaluation criteria to be used in judging the completion of the learning. It is a method used to individualize the learning process. Knowles (1980) suggests four basic assumptions underlying the use of learning contracts which are :

1. The adult-learners' self-concept moves from being dependent towards being an independent self-directed human being.
2. The adult learners' accumulate a growing reservoir of experience that can be used as a resource for learning.
3. The adult-learners' readiness to learn is linked with developmental tasks of their life roles.
4. The adult-learners' time perspective toward learning shifts from postponed to immediate application and from subject-centeredness to performance-centeredness.

Four major advantages of the learning contract approach include :

1. The flexibility of the approach makes it suitable for many learning experiences.
2. The learner is in control of the learning process.
3. Contract learning allows the development instructional skills by the learner.
4. Learners like the approach

Chickering (1975) reports on a survey conducted at Empire State College where 46 percent of the students evaluated the learning contract as "superior" to traditional approached; 26 percent rated it as "somewhat

inferior". Caffarella (1983) found that graduate students considered contract learning to be worthwhile and valuable.

LECTURE

Darkenwaid and Merriam (1982) reported that the lecture was the most preferred and most used instructional method in adult education. The advantages of lecture include:

1. The material may be presented in a clear, precise, and orderly format.
2. It is well-known and acceptable method - most adults are familiar with and feel comfortable with the lecture.
3. It is useful for participants who will not or cannot use printed materials.
4. It may be used with large groups.
5. It provides for face-to-face contact with a talking, gesturing, feeling human being.
6. It is easier for participants to listen than to read.
7. The speaker can use the lecture to stimulate and motivate the audience to further study and inquiry.

There are several strategies to increase the effectiveness of lecture upon adult learners:

1. Set a learning climate.
2. Limit the amount of information.

3. Speak clearly, loudly enough, and at a pace appropriate for the learner group.
4. Keep moving, but do not over do it.
5. Complement the lecture with other instructional methods.
6. Provide an obvious end.

DISCUSSION

Discussion benefits both the teacher and learner as it appears to place teachers and learners on an equal footing and it proves successful in actively involving learners. One of the most frequently cited argument in support of discussion is its suitability toward achieving cognitive and affective end, particularly those of problem solving, concept exploration and attitude change. A second reason is that it encourages active, participatory learning.

Legge (1997) declares that "as an educational method, in fact, its importance lies in the way in which it impels class members to participate (p.58). The assumption underlying such assertions is that "the more members who are active in the discussions, the better the retention of active and inactive members" (Davis, 1961,p.136).

Discussion is most effective when it is used:

1. To expose learners to a diversity of perspectives on an issue, topic or theme.
2. To help learners to externalize the assumptions underlying their values, beliefs and actions.
3. To introduce learners to elements of complexity and ambiguity in an issue, topic, or theme.

CORRESPONDENCE STUDY

The recent trend of utilizing a variety of educational media, namely television in conjunction with correspondence course, the adoption of the name "independent study" by many university-based correspondence programs and the formation of links between correspondence instruction and emerging external degree programs has added flexibility to the correspondence approach and increase its appeal (Loewenthal, Blackwelder & Broomall, 1980).

Now, correspondence study is viewed as an attempt to preserve the independent study of the learner and at the same time, provide some personal relationship with a teacher. The advantages of correspondence study include :

1. Programs can be organized and expertly prepared using modern technology and recent insight into the content for curricular development.
2. Correspondence study proves to be a fairly economical way of reaching large number of audience.
3. Correspondence study supports the independence of the adult learner while providing opportunities for positive support and individualized feedback from a professional educator.
4. The method has definite advantages to the program manager in the teaching, testing, and administering of credits or credential to individuals. **(Seaman & Fellenz, 1989)**

No doubt, the most pertinent element in carrying out a correspondence study is adequate planning on the part of the instructor. Loewenthal, Blackwelder and Broomall (1980) stressed that there is probably no form of instruction for which planning is more necessary than the correspondence method, especially since the written essence of the course is presented to the student at the time of enrolment.

NOMINAL GROUP TECHNIQUE

The group technique is defined as a pre-designated pattern for human instructions that offers a better potential for progress toward goals than does instructed random behavior (Beal, Bohlen & Raudabaugh, 1962). The use of group technique has been one of the most widely utilized instructional technique in adult education. The nominal group was developed by Andre Delbecq and Andrew Van de Ven in the 1960s as a problem-solving technique. Its strength is derived from the power of individuals each generating, exploring and communicating ideas.

The choice of a group process is based upon a set of agreed principles:

1. The appropriateness of the method in relation to the knowledge, ability and skill of the participants.
2. An understanding of the internal dynamics of groups in relation to the needs of the individual participants.
3. The realization of the setting and organizational factors that are important to the process.
4. The purpose to which the outcome is to be used.
5. The understanding that group process should be used as an instructional or problem solving method, not as recreational activity.

DEMONSTRATION AND SIMULATION

According to Jernstedt (1980), demonstration and simulation are methods based upon experiential learning. They provide adult learners the opportunity to observe the exact way of performing a skill. Adult learners can observe actual practice and utilize their experience in real life situations. This enhances learning by providing the time to develop mastery of a skill or the conditions by which personal adaptation and awareness can be developed.

Demonstration are an excellent way to illustrate points which enable the learner to comprehend complex and difficult material in a short period of time. When properly prepared, several minutes of demonstration may accomplish more than hours of lecture. Another advantage is that demonstrations help reduce the gap between theory and practice. In addition, they enable more than one of the senses to be activated which enhances learning. By providing adult learners the opportunity to focus upon a preferred learning style, the learning situation becomes more personalized and individual. Also, a combination of various learning styles fosters comprehension and improves recall and transferability (Galbraith, 1987).

Simulation is a technique which enables adult learners to obtain skills, competencies, knowledge, or behaviors by becoming involved in situations that are similar to those in real life. The most common simulation techniques used in adult education are role playing, case study, critical incident, and in-basket activities. A successful simulation is based on identifying an appropriate learning objective. Thiagarajan (1980) suggested that simulations were appropriate for five learning objectives :

1. To develop highly complex cognitive skill such as decision making, evaluating and synthesizing.
2. To impact positively on the learner's values, beliefs or attitudes.
3. To induce empathy.
4. To sharpen human relation skills such as interpersonal communication skills.
5. To unlearn negative attitudes or behaviors.

According to Weddel (1982), simulation provides an opportunity to apply learning to new and rewarding situations which allows for new discoveries. Also, learners are active participants in the learning process rather than passive recipients of information.

CONCLUSIONS AND RECOMMENDATIONS

Adult learners require teaching strategies that reflect their sociological and psychological characteristics (Ashmore, 1987). In response to this, the literature reports that those needs mandate a unique science of teaching-andragogy. As the adult learner is more independent, more motivated, more experienced and more self-directed, learning strategies that utilize student input, such as group discussions, laboratory experiments, nominal group technique (problem-solving) activities, field experiences and oral presentation/question-answer sessions. Instructors should avoid involving adult learners in a role of dependency, captivity and unquestioning compliance which may result in resentment and resistance. Since the adult learner would be willing to learn if the input fulfills their perceived needs, learning programs should focus on life-application categories. Also as the adult learner prefers knowledge that could be translated immediately into practice, programs that permit immediate application of new skills should be developed.

In discussing teaching learning preferences on non-traditional students, the main issue is "not whether learner-centered methods are universally applied by teachers of adults, but rather for what purposes and under what conditions such methods and others are most appropriate and effective and in fact used by teachers" (Darknewald & Beder, 1982, p.207). Graham (1985) in reviewing studies related to interaction pattern suggests that "the most cogent prescription might be to define responsive teaching techniques as the approved practice for educators at all levels...." (p.207). Several implications for practice as proposed by Imel (1989) include :

1. Determining the purpose of the teaching-learning situation. The decision about which approach to use is contextual and is based upon such things as the goals of the learner the material to be covered, and so forth.
2. Provide opportunities for teachers to practice learner - centered. Gorham (1984) suggests training teachers in techniques especially suitable for adult students, such as small group discussion methods, effective use of nontraditional room arrangements, and so forth.
3. Select teachers on the basis of their potential to provide learner-centered instructional settings. Gorham's (1984) study identified some characteristics of teachers who seemed to be more flexible and responsive in adult settings. However, she also suggests that more research is needed.

Looking at the learning and memory concepts in adult education, several considerations for practice can be derived at. Willis (1985) states that from an intervention standpoint, an adult's learning and memory skill can be improved by manipulating either :

1. The material (task) to be learned (by making it more meaningful, or easily seen or heard).
2. The learner (by skill-training program, altering one's expectations of success/failure and motivation for improvement, or by minimizing noncognitive factors such as anxiety or fatigue.)
3. The context in which learning occurs (using instructions that are easily comprehended, task pacing).

The implications of studies on motivation are important for adult learning. First, older people will be more motivated if they are learning meaningful material. Thus, the instructor must know what their needs, wants and interests are so that the appropriate materials and methods can be used. Second, by designing instruction at an appropriate level of complexity, by setting a relaxed pace, and by reducing the threat of failure, the instructional experience can become more successful and enjoyable. This can occur mainly through the attitude and approach that the instructor brings to the learning setting. However, a supportive environment also depends on the supportiveness of the learners towards one another. Third, the reward for participation in the instructional setting should be clear and regular. Constant monitoring of the supportiveness of the climate, of the extent to which people are being made to feel they are a part of the situation, and of the extent to which they are appreciated and valued regardless of their academic background or achievement is necessary for continued involvement and progress.

Much more research is needed to evaluate the effectiveness of the learning contract approach with other approaches to teaching and learning. Having said that, Knowles (1986) agrees that "Contract learning is an approach to education that is most congruent with the assumptions about learners on which the andragogical model is based ...". Lecturer is suitable when the information to be transmitted is not readily available or is scattered among sources and when an expert has current information immediately desired or needed by a large group of learners in a short period of time (McKeachie, 1986). The lecture, if appropriately used and done well, nothing can replace oral discourse as an "intellectual experience" exposing learners to "a window on the teacher's mind" (Frederick, 1986, p.45). The overarching purpose of discussion is to help learners to explore their experience so that they become more critical

thinkers (Brookfield, 1987). An educational activity is successful to the extent to which it encourages people to think critically. It involves people in a critical examination of how far uncritically accepted assumptions are found to be valid in adult life. Participating in the emotionally charged activity we know as discussions represents for many adult learners the quintessential adult educational experience.

Correspondence study, though is an established method of learning and that is used increasingly in its various forms by higher education and other groups, it is still regarded by many as a method which is not so different from its traditional classroom counterpart. Nevertheless, it has been improved by making the packaged learning more personalized, aimed at fulfilling the student's needs and preferred learning styles. Utilizing modern forms of instructional media such as the microcomputer, video tapes and slides will allow lessons to be packaged in variety of forms. Audio communication can be used more effectively through the use of tapes and phones. Feedback will be more appreciated and invite positive responses from students.

The use of group technique has been one of the most widely utilized instructional technique in adult education. The nominal group process fulfills the needs of adult learners who request group interaction. It should be used with a defined purpose in mind, not as an activity. It is very important that questions framed for the nominal group be clear and applicable to the problem being addressed. Demonstration and simulation provide the adult learners the opportunity to see the actual way of executing a skill. Simulation enables adult learners to obtain skills, competencies, knowledge or behaviors by becoming involved in situations that are similar to those in real life. The most common simulation techniques used in adult education are role-playing, case study, critical incident and in-basket activities. Similarly, discussions are realistic and focused upon observed behaviors and feedback is immediate, which provides for a built-in reward system that encourages involvement. Adult learners also more receptive to new ideas and attitude changes when they are exposed to them in real life situations as provided through simulations.

As adult educators, we are well aware that the educational needs and wants of adult learners are not necessarily the same. The needs emerge from the social and development context of the individual but may not be perceived to be salient to the individual's current interest. Most educational program are likely to fulfill both needs and wants, a result that does not easily occur when dealing with a complex group of people.

The future of adult educating can profit in many ways by integrating the different learning strategies and adapt them to different learning situations. As it has been generally accepted that adults are quite capable of acquiring a variety of cognitive skills, the search for the best teaching environment to facilitate and enhance adult learning in higher education should be regarded as a vital goal in education today.

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