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ABSTRACT

Instructional designs are described that respond to the personal needs of adult learners, the general education needed for employees in contemporary, complex organizations, and the need for effective instruction models for use with adult students. Following a discussion of the changing expectations in the work environment that result in a need for persons trained in collaborative and cooperative interaction practices, the needs of adult learners for autonomy, self-direction, group affiliation, pragmatic knowledge, and enhancement of self-esteem are discussed. The following cooperative learning approaches are then described and illustrated: group investigation, reiterative problem-based learning (modified), and co-op/co-op (a flexible cooperative learning technique). Contains 12 references. (KM)

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COOPERATIVE AND WORKPLACE LEARNING APPROACHES

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## COOPERATIVE AND WORKPLACE LEARNING APPROACHES

## Introduction

The fundamental purpose of this work is to identify some instruction designs which respond to the : personal needs of adult learners; needed general education of employees in contemporary, complex organizations; and, the need for effective instruction models for faculty to use with adult students.

The rationale for the work is based on the idea that the adult learner, in general, presents a set of needs and preferences that tend to segregate the adult learner from children and adolescents as learners. Individuals, as learners, have much in common, however, most adult learners have needs and interests which tend to be more focused, more highly defined than children and adolescents. Apprehension of one's needs and interests gives rise to certain expectations with regard to the instruction process and the content of instruction. These expectations can be ascertained with some level of precision and instruction designs which are sensitive to these expectations can be successfully implemented.

Somewhat external to the needs of the individual learner is an emerging and rapidly growing need of many organizations in which our adult learners work (or, aspire to work) and/or in which they perform some volunteer work/service (eg. food bank, hospitals, Boy Scouts, churches). Basically, people are being required to work more in collaboration with others in work groups, formal teams, ad hoc teams, and the like. There is a need for adults to receive education and training with regard to cooperation and collaboration with others. These needs are identified in this work and the instruction designs identified at the end of this paper respond directly to these needs.

Proposed then, are instruction designs that may be readily implemented by faculty and which are particularly responsive to the needs of the adult learner and, further, which respond to a more general, "workplace" need for persons educated/trained in collaborative and cooperative interaction practices.

## Changing Expectations in the Work Environment

Many organizations have made major changes in the ways in which they manage their people. Often, they want to blur the distinctions between management and workers, and, they want their employees to know more, share more, and do more. Lawler (1986) reports that many organizations have become leaner, flatter, (less hierarchical), and seek to push authority and responsibility down to those who do the work, typically in self-contained teams and organization units that have responsibility for a product, service, or market segment. He points out that organizations such as Honeywell, Ford, and Xerox desire to create conditions where employees are fully informed about the business and where expanded job responsibilities are complemented by greater participation in decisions about how work is done and the policies and practices that affect the workplace.

Peters (1987) is concerned about the adaptability and flexibility of the contemporary organization. He prescribes that for organizations to become highly competitive through flexibility and quality-consciousness, they organize as much as possible around teams to achieve greater focus, innovativeness, task orientation, and individual commitment. Further, he prescribes that the modest-sized, semi-autonomous, mainly self-managing team should be the basic organization building block (Peters, p. 356). By way of example, Peters (p. 358) reports on the team concept at the GM Cadillac plant in Livonia, Michigan, where employees were organized into teams of 8 to 15 people and were called Business Teams. These teams were highly autonomous groups, responsible for problem-solving, training, scheduling, and other activities. The teams met frequently, and developed their own quantitative performance indicators. They were rewarded for learning the jobs of other members and individual performance appraisals emphasize support for the business team.

In other research, Larson (1988), found that in one organization, employees from several different departments had been cross-trained and formed into work teams of 10 to 12 persons to help speed product development cycles through collaboration. This collaboration was credited for shortening the development cycle by a year or more. At least as important, was the finding that team tactics created more challenging and meaningful work for members.

Shea and Guzzo (1987) are realists in this matter. They contend that in organization life few individuals act truly independently on any significant task. In many ways, nothing happens in organizations without groups such as staff support groups, advisory committees, production departments, etc., giving consideration to what needs to take place. In the future, groups will be the vehicle for bringing together specialists in the service of a particular project, market, or customer. Groups will be a means to train workers and support them in their transitions. Shea and Guzzo (p. 328) concluded, as a result of their research, that we are much less adept at managing groups as human resources as compared to managing individuals and that practice has outpaced theory and demands for expertise in managing human resources as groups has far exceeded supply.

Fox (1987) suggests that although organizations can get by for a time being only efficient or only innovative, over the long term there must be a simultaneous achievement of both efficiency and innovation. Member involvement is essential to the simultaneous achievement of both innovation and efficiency. Along these same lines, Reich (1989) reports that in an ideal sense, individual skills are integrated into a group; and the collective capacity to innovate may become something greater than the sum of its parts. And, from working together over some period of time, group members learn about each others' abilities; they learn what each member has to contribute to the effort; they learn how they can help one another perform better; and, how they can best take advantage of one another's experience.

"Learning to collaborate suggests a different kind of education than one designed to prepare a relatively few talented young people to become professional experts. Instead of emphasis on the quiet and solitary performance of specialized tasks, what's needed is a greater emphasis on interactive communication linked to group definition and solution of problems. Students should learn to articulate, clarify, and then restate for one another how they determine questions and find answers. Rather than be trained to communicate specialized instructions and requests -- skills relevant to high-volume standardized production -- students should learn how to share their understandings and build upon each others' insights." (Reich, p. 18)

In brief, many employers of adults are required to find new ways of managing human resources in order to be efficient and innovative and there is a need for people to have much more knowledge of the processes and required skills of effective participation in teams and groups.

#### Needs of Adults as Learners

Adults have a strong need to be competent in the application of what they have learned. The application of learning -- the doing -- is regarded as very important. Adults are more in tune with their efforts to achieve competence and are perhaps more vigilant as to personal payoffs resulting from engagement in formal learning (Knox, 1977). Adults seek to build their self-esteem through pragmatic learning activities in which their competence is enhanced (Wlodkowski, 1985).

Most adult learners are relatively independent and require less "telling" or pedagogy. Most have a need for instructors to be facilitators and helpers. They have a need for belonging, sharing and cooperating; and, while most will accept and anticipate the legitimacy of authority figures, the control typically exercised by authority figures is not regarded as particularly desirable.

Adults seek to gain mastery, control and dominance over their interactions with their environments. Glasser (1986) has proposed that anytime we can introduce power, belonging, or freedom into any situation (not just instruction), we find the situation much more interesting and stimulating. As teachers we need to incorporate in our instruction designs and methods activities which give full recognition to the learned drives for mastery, power, achievement and affiliation.

Mouton and Blake (1984), have concluded that some of the problems of and the relative ineffectiveness of many current educational and training programs intended for adults result from the character of the instructor-student relationship in the traditional classroom. Mouton and Blake refer to this tradition as the pedagogic model in which the instructor is the expert with control and authority over the students. The instructor in such a model determines what is to be learned, how it is to be learned, and at what rate. Adult students being relatively self-reliant and autonomous resent continued dominance and control by instructors. Mouton and Blake refer to their instruction approach as Synergogy, in which the role of instructor as expert in providing authoritative subject matter is preserved; and, the proactive involvement of the student in being responsible for learning is enhanced. The basic principles of Synergogy that promote educational success for adults are: giving learners meaningful direction through learning designs and learning instruments; relying on teamwork rather than individual work to enhance involvement and participation; and, synergy, itself, which indicates that the whole is more than the sum of the parts (eg. shared experiences, development of human relationships).

As a kind of integration and summary of key points in this discussion, it can be safely stated that the themes are becoming obvious. That is, the features of the changing expectations in the work environment such as: more teamwork among employees; more sharing of information about jobs and organization; more of an emphasis on self-direction for problem finding/problem solving; match-up quite well with many of the needs of the adult learner. Needs such as having freedom to make choices; to exercise autonomy and self-direction; to be affiliated with the group, to belong; to gain knowledge and information that has payoffs of a pragmatic, applied, "can do" nature; and, perhaps most important, the need for one to enhance one's self-esteem by contributing actively (planning, developing, acting) as an on-line participant in the learning. The next part of this work explains instruction techniques which respond to these matters.

## Cooperative Learning Approaches

Slavin (1983) defines these approaches as techniques that use cooperative task structures in which students spend much of their class time working in 4-6 member groups; also, using cooperative incentive structures in which students earn recognition, rewards, or grades based on the academic performance of their groups. The approaches and methods have been experimentally tested and have found to have positive effects on student achievement, human relations skills, trust among students, and emotional involvement in and commitment to learning.

Keeping in mind the needs of the adult learner expressed above, one may conclude that the features of cooperative learning approaches interface well with the various needs. That is, responsibility for learning is placed with the learners; activities are learner-centered; the instructor behaves as a facilitator and is not the focal point of all activities; learning groups (teams) are largely self-determining, autonomous units; contributions of all participants is encouraged. In brief, the students are empowered to attain mastery and competence in a self-directing, autonomous way with some guidance and little control. Further, many secondary learning gains may result in the areas of interpersonal skills, and general communication skills. Some of this information (above) takes on greater meaning when one apprehends the specific instruction designs exhibited in the final part of this work.

There are some disadvantages in using cooperative learning approaches, such as: the lack of short-term extrinsic rewards for some students (who may desperately need them); the diffusion of responsibility in groups/teams; the effort and time required to manage the designs and create materials; and, the inability of some students and/or instructors to effectively manage group processes and group dynamics.

There is a growing body of research that is highly supportive of cooperative learning approaches. Slavin (1985) indicates that these approaches are simple to apply and use successfully. He reminds us that approximately 70 to 80 per cent of today's jobs require complex coordination of ideas and efforts and that it is difficult to point to a job today that does not require cooperative interaction abilities. Normally, students are not required to work cooperatively together in learning activities, however, one is expected to do this in the workplace.

## Some Examples

The remainder of this work contains three examples of cooperative learning approaches. The three approaches are ones which may be used successfully with adult learners. The approaches are ones regarded as particularly useful in learning situations involving conceptual material and/or information that requires analysis or integration. Other approaches are useful for instruction in particular skills areas, and for when large amounts of information, details, etc., are to be learned by students.

I have used two of these approaches, co-op/co-op, and Group Investigation, and have some evaluative information from adult students (essays) which indicate their preference for such approaches as compared to more traditional methods (group case analyses, lecture/discussion, etc.). I have not completed controlled studies comparing effects of various instruction approaches. Such work is planned for the near future although I am not sanguine about the extent to which I can attain a highly controlled situation.

Students report much personal satisfaction in participating in these approaches in terms of personal responsibility for action, learning and achievement, variety in the learning environment, getting to know better their class members, and, the opportunity for greater networking with class members. This last point is most important for adults who are in career/job transition, or, who wish to learn more about different jobs and careers.

### EXAMPLE 1 GROUP INVESTIGATION \*

The approach consists of six consecutive stages or parts, with faculty member as guide or consultant.

1. Topics and teams -- Depending on course content, topics for study are identified and students are placed in teams of their choice or instructor choice, etc. Choices can be negotiated.
2. Planning - Team members decide what sub-topics are to be investigated as well as the goals of their study and how the topics are to be studied.
3. Action- Team members gather information, review it, analyze/evaluate it, and reach some conclusions.
4. Final Report Preparation - Each team must prepare a summary activity. It may be in the form of a report, a briefing, etc., for the entire class. The teams, via representatives, must coordinate this activity.

5. Presentation - Each team, using whatever means, methods, materials, it deems desirable presents its findings to the class.

6. Assessment/Evaluation - The purposes, methods, and means of evaluation can be negotiated collaboratively among the students and the instructor. This is usually a tremendous learning experience in itself. Cognitive, affective experiences can be examined.

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Example - study the "white" appliance industry.

\* for more information, see, Sharan, S. and Hertz-Lazarowitz, R.A. "A Group-Investigation Method of Cooperative Learning in the Classroom." in S. Sharan, et al. (Eds.) Cooperation in Education. Provo, Utah: Brigham Young University Press, 1980.

Example 2 Reiterative Problem-Based Learning (as modified)\*

This approach consists of six steps.

1. Teams - The class members are formed into teams. The instructor forms the teams.

2. Problem - A poorly-defined problem is presented to the students. Students in teams work to define what they know about the problem, what questions they have, what information they require and its possible sources. The teams are expected to place in writing: a complete statement of the problem, a strategy for inquiry, the learning resources they expect to use. (example - AIDS patients should be completely segregated from the rest of society).

3. Self-Directed Study (this is self-explanatory)

4. Assessment - Each team meets to discuss and critique the inquiry strategy, the yield of various resources, etc.

5. Iteration -- steps one through four are repeated.

6. Report - The teams members contribute to prepare a final report to the instructor. (Within groups, individual reports may also be assigned and graded by members and instructor.

\* for more information, see Barrows, H. How to Design a Problem-Based Curriculum for the Preclinical Years. New York: Springer Publishing Co., 1985.

### Example 3 Co-Op/Co-Op \*

This approach consists of ten steps.

1. Initial class discussion regarding the topics, concepts, etc., of attention (example: performance appraisal and its relationship to training).
2. Identification of student teams (4-6 members) with as much heterogeneity as possible.
3. Team building activity takes place via exercises, tasks, etc., to have the teams practice communication and cooperation.
4. The overall learning unit for the class is identified and individual teams are identified with one aspect of the overall unit. One team's work will complement the work of the other teams.
5. Within each team, sub or mini-topics are identified by the team members and each team member is to study/learn about his/her topic so as to educate the team members.
6. Individuals spend time in preparation of their sub-topic work. One of the products of this activity must be a written report.
7. Each student does a presentation of his/her work to the team members. All are expected to do this. Student creativity is encouraged. This is a within-team activity. It should be graded by the members and/or the instructor.
8. Following the individual presentations and discussion, etc., the team prepares a presentation to make to the rest of the class regarding what has been learned.
9. Team presentations are conducted. Here it is desirable to invite creativity on the part of the presenters. It is usually wise to reduce the amount of "lectures telling" and have the presenters make use of role play, panels, visual material, etc.
10. Evaluation and Grading -- The criteria should be established in the beginning and can be discussed by the instructor and the students. Both students and the instructor can evaluate: sub-topic presentations; team presentations; and, the instructor should grade the sub-topic paper or project prepared by each team member.

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\* for more information see Kagan, S. "Co-Op, Co-Op: A Flexible Cooperative Learning Technique" as Chapter 16, in Slavin, R.L. et al. (Eds.) Learning to Cooperate, Cooperating to Learn. New York: Plenum Press, 1985.

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