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Management theorists, beginning with Henri Fayol, assumed that an appropriate approach to studying and teaching management was through the management functions. A major premise of this approach is the universality of management functions. This premise paraphrases as “managers manage and all perform the same functions.”

A brief survey of basic managements texts currently used in colleges and universities shows that the function approach is still widely used. Such a survey will result in an array of functions from Davis' (5) set of three - planning, organizing, and controlling - to Massie's (9) seven and Dale and Michelon's (3) eight functions of management.

One function increasingly mentioned in the literature is decision making. Massie (9), Greenwood (6), Gross (7), and Sisk (8) all include this as a major function. Simon (10) places decision making at the very center of management and suggests that it may be the most important function of managers. In any event, the study of decision making behaviors is important and is increasing in frequency.

Group decision making has increased throughout all organizations. Decisions are being made in committees. Plural executives work together to more effectively manage complex organizations. The nature of many problems is so complex that no one person possesses all the knowledge or skills necessary for problem solution. Groups must function as decision making units. This, however, requires that group members possess certain knowledge and skills related specifically to group dynamics, group decision making, and team management.

#### The Experimental Problem

If the premise is accepted that (1) more and more decisions are made by groups, (2) greater knowledge of group dynamics, group decision making principles and team management will improve group performance, and (3) that these concepts, etc. can be taught then the problem becomes one of method or technique. How can the material best be taught? Expenditure of resources as well as cognitive learning and retention must be considered in the choice of techniques.

#### The Study

The decision was made to attempt to improve the knowledge of medical professionals in the areas of group dynamics, group decision making, and team management and measure the impact of this on

performance. Previous experience in experientially based management development programs for middle managers and for medical professionals in management positions (MD's managing clinics, serving as health service directors, etc.) provided the initial interest in using an experiential technique in the research study. The cooperation of the administration and the senior faculty of a medical school provided the opportunity to conduct a study using professional medical personnel from several countries as naive subjects.

A Pretest - Posttest - Control Group design similar to that discussed by Campbell and Stanley (1) was selected for the study. Two experimental treatments, A and B, were used. Treatment A consisted of teaching the selected concepts, principles, and techniques by an experiential approach consisting of a series of interrelated decision exercises, video feedback, and in depth analysis by behavioral observers. Treatment B consisted of teaching the same concepts, principles, and techniques by traditional classroom lecture. The lectures were supplemented with class discussions of case studies selected to illustrate the content of the lectures. The cases were not "solved" by the subjects -- itself an experiential approach. Case solutions were provided by the instructor for discussion.

Data were collected by a Pretest, a Posttest following the treatments, a second application of the Posttest five weeks later, evaluation of a group product for six groups, and observations of group process by senior faculty at the medical school. Medical students took the Pretest and Posttest as a control for testing effect, maturity, and repeated measures. Control group scores showed no significant differences.

Hypotheses were generated in the areas of learning and retention, attitude change, and performance. These were:

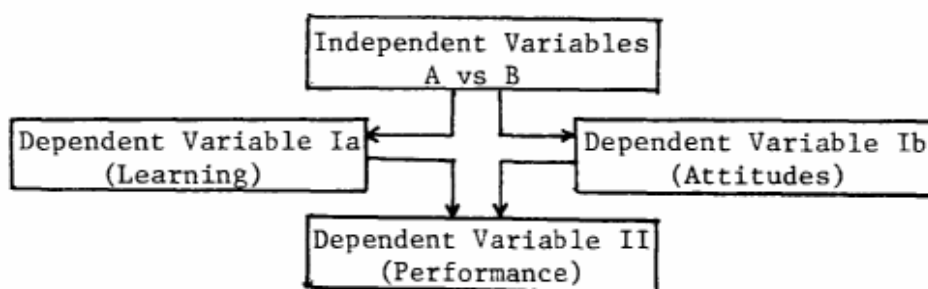
- H1: Treatment A would be more effective than Treatment B in terms of retention of material learned.
- H2: Treatment A would result in greater positive attitude change toward group activities than would Treatment B.
- H3: Group performance of groups receiving Treatment A would be ranked superior to performance of groups receiving Treatment B.

### The Results

The study assumed three classes of variables. First, there was a set of independent variables consisting of the two treatments. Second, there was a set of dependent variables consisting of (a) the amount of cognitive material learned and retained and (b) the

attitude change that occurred. Third, there was a set of dependent variables consisting of the group performance in group projects. A two stage process was assumed. The independent variable worked directly on the first set of dependent variables and through them on the second set of dependent variables. The study assumed that the experiential nature of Treatment A would so involve the subjects that the content of the treatment would be internalized and thus have a major effect on actual behavior in group situations. This process is shown in Figure 1.

FIGURE 1. ASSUMED EXPERIENTIAL PROCESS



The data collected supported Hypothesis 1. Data analysis indicated that the experiential treatment was effective in teaching the concepts and principles selected for the study. Retention by Treatment A subjects was significant while Treatment B subjects did not retain the concepts and principles. These results are shown in Table 1.

TABLE 1. EFFECTS OF EXPERIMENTAL TREATMENTS ON RETENTION

Measure	N	$\bar{X}$	d.f.	$\Sigma D$	$\Sigma D^2$	tc
Treatment A						
Pretest	20	15.25	19	82	582	4.975**
Posttest 2	20	19.25				
Treatment B						
Pretest	18	13.28	17	28	982	.888
Posttest	18	14.83				

\*\*significant at .001 level

Equivocal results were obtained in the area of attitude change. Treatment A subjects indicated attitude change that approached a 0.1 level of significance. This was considered only an indication of directionality. Treatment B produced no measurable attitude change.

When group product was the measure of performance the results were not statistically significant. A group of judges ranked the group project reports (group product) using a set of criteria provided by the researcher. These rankings and analysis are shown in Table 2.

TABLE 2. ANALYSIS OF GROUP PROJECT DATA

Score	8	9	10	12	13	14	15	23	
Rank	1	2	3	4	5	6	7	8	
Group	4	3	2	7	5	8	1	6	
Treatment	A	A	B	B	A	B	B	A	
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U =		0	+	0	+	2		+	4
U =	6								
p =	.343 of U ≤ 6								

Group performance data existed in the form of faculty observations of group process. When the groups were ranked using process as the measure of performance the results were significant and are shown in Table 3.

TABLE 3. ANALYSIS OF GROUP PROCESS RANKING

Rank	1	2	3	4	5	6	7	8
Group	4	3	6	5	8	2	7	1
Treatment	A	A	A	A	B	B	B	B
<hr/>								
U =	0							
p =	.014 of U = 0							

### Analysis of the Results

Underlying the experiential methodologies is the premise that involvement in the process results in greater learning and retention. The student is involved as an active participant, playing a role and making inputs into the process as opposed to being a semi-passive receptor of stimuli furnished by the instructor. This involvement and active participation was what Thorndike (12) referred to when he wrote, "We depend on interests to provide the motives for the acquisition of knowledge."

Treatment A was effective in learning and retention because it differed from the structure of the experiential simulations reviewed by Cherryholmes (2). Cherryholmes concluded that simulations were not more effective in learning and retention than lecture

because students were presented with the body of facts and the relationship between variables and only “plugged-in” the numbers. The involvement in the process did not occur.

Treatment A subjects were involved in the process. They were exposed to the body of facts and the relationships between variables in several ways in each decision exercise. First, subjects were required to solve the problem in a discovery manner. The experience of solving the problem provided the means by which they discovered the facts and relationships. Second, a mini-lecture followed the exercise and the instructor presented the relevant body of information. This might be considered a positive reinforcement for subjects who successfully solved the problem. Third, the opportunity to observe their own behaviors during the video playback provided a second reinforcement for successful subjects and provided the unsuccessful subjects an opportunity to compare their behavior during the exercise to the information presented in the mini-lecture. Fourth, the in depth analysis by the behavioral observer provided an opportunity to fully investigate why certain behaviors were functional or dysfunctional.

This sequence occurred in each exercise. Additionally, the concepts learned in the first exercise were used during the second one and the knowledge gained in exercises one and two was needed for exercise three. This interrelationship of exercises resulted in additional reinforcement for the subjects.

No clear or definitive statements can be made concerning the equivocal results relative to attitude change. The non-significant positive change suggests that a longer time frame might produce significant results. The complex nature and the difficulty of precise attitude measurement limits the ability to make more definite statements.

Davis (4) noted that group performance can be divided into three segments: group product, group structure, and group process. The experiential treatment did not produce significant results when product was the measure of performance. An examination of the treatment provides a plausible explanation of this.

The content of the experiential treatment dealt with how to do things. Functional and dysfunctional behavior, group decision making guidelines, group dynamics, and team management were taught. The subjects were involved in group decision making and in practicing team management. The desired attitude change was toward group effort. The content of the treatment might logically be expected to have a greater effect on group process than on group product.

## Conclusions

Experiential instructional programs have experienced successes and

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failures. Heinkel (8) as well as Cherryholmes reported that students in the experiential simulations do not learn more than students taught by more traditional methods. Wallen and Travers (13) reported similar findings when comparing lecture and discussion methods. This study reported mixed results. The experiential treatment was more effective than lecture in learning and retention of facts, principles, and concepts. Groups taught by this method did perform better when process was the measure of performance.

Experiential programs are resource consuming when compared to other methods of teaching. For this reason it is important that the particular program be tailored to fit the need. To do otherwise will result in wasted resources.

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