WHO GAINS AND WHO DOES NOT FROM EXPERIENTIAL LEARNING

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ABSTRACT

The purpose of this study is to discover who gains and who does not from experiential learning. The study was done with twenty six students in one class. It was hypothesized that people who had the maturity and experience to take advantage of the experiential course would gain the most. The results show otherwise. Students who were less mature, less experienced and less likely to see the relevance of the course gained the most from it.

INTRODUCTION

It is true that from any given classroom or learning experience, some people will gain and others will not. This is especially true for experiential learning experiences. Some learners will gain a great deal from experiential~ learning because it encourages involvement and it offers opportunities for gaining deep active comprehensions of phenomena. Other learners will gain little or nothing from experiential learning because the approach is different from those to which most learners are accustomed. Therefore, some will be uncomfortable with it and gain little or nothing from participating.

The purpose of this study is to differentiate those who gain from experiential learning from those who do not. This study presumes that some people will gain -more from the experiential experience than others and that certain variables can be identified which will distinguish those who will gain much from those who will gain little. Such a study has important practical implications. If a teacher knows which students are likely to gain from the experiential learning experience and which are not, he or she can select only the gainers to participate. In addition, if the teacher knows the potential gainers and non-gainers, he or she can individualize his or her teaching techniques (make them more or less experiential) so that each person can gain the maximum.

The theory behind this study is called contingency theory. Contingency is an accepted notion among most organizational and many educational theorists. With respect to organizations, contingency theory says that there is no one correct way to organize or lead--that how to organize or manage depends on the situation. For some situations, one way is more appropriate; for other situations, other ways are more appropriate. With respect to Education, contingency suggests that no one teaching style is uniformly best--in some situations, one style is more appropriate; for other situations other styles are more appropriate. For this study's purposes, contingency suggests that while one particular teaching style is well suited for some learners, Other styles will be better suited for other learners. It also suggests that not all students will benefit equally from a particular teaching method. Some will gain a great deal from a particular method, others less, and still others not at all.

There is classroom-based research to support this contingency notion. Both Wispe (9) and Dubin and Taveggia (6) conclude that a student-centered (permissive) approach facilitates achievement for the advanced student while a more authoritarian approach is better suited for the slower student. Dowaliby and Schumer (3) found that while a teacher-centered mode optimized learning for students high in manifest anxiety, the student-centered mode resulted in superior exam performance for low manifest anxiety students. More recently, Brenenstuhl and Catalanello (2) found that a student's learning style (7) affected accomplishments in different ways in different types of classrooms. In experiential and simulation sections, "convergers" tested higher than other students; while in discussion sections, "accommodators," "assimilators" and "divergers" tended to accomplish more than con- vergers.

Setting, Design and Variables

Setting. The setting for undertaking this study was an experiential course in Organizational Behavior patterned after the Cohen-Fink-Gadon-Willits Model (4). In the course, students did much of their work (exercises, case discussions) within on-going groups, and seventy percent of their grade was directly or indirectly based on group work. Forty percent of each student's grade was based on the results of group- created projects, and thirty percent of the grade was based on an individual paper analyzing the person's experience in that on-going group. Thus the course to a great degree focused on the student's interpersonal experiences in an on-going task group.

Research Design. As indicated above, the purpose of this study is to differentiate those students who gain a great deal from participating in the experiential course from those who gain little. To design a study to accomplish that purpose, two tasks are required: (1) define the variable 'student gain" and (2) identify discriminating variables or those variables expected to discriminate gainers from non-gainers.

Gain Variables. Student gain variables are indices of how students are expected to change as a result of the course. Two gain variables were established for the study, each measuring an expected change -- (a) self concept in groups, and (b) tolerance of ambiguity. It was expected that students' self concepts in groups would change as a result of the course, and it was expected that the students would become more tolerant of ambiguity as a result of the course.

a. Self Concept in Groups. Regarding self concept in groups, it was specifically expected that students would see themselves as more active, more valuable and stronger in groups as a result of taking the course. Because students would be uncomfortable upon entering a group experience and because students would have a relative lack of previous experience paying attention to group processes, they were expected to underemphasize their own value and worth in groups before the course. Because the course would encourage them to take active roles in groups while making decisions important to them, they were expected to see themselves as stronger, more active and more valuable after taking the course.

b. Tolerance of Ambiguity. It was also expected that

students would become more tolerant of ambiguity as a result of the course. With the group experience, students were expected to realize that group phenomena are ever-changing, complex and often insolvable and cannot be reduced to simplistic, singular cause and effect formulas. They were expected to understand that group developments and their causes are not al-ways clear and that effective behavior in groups includes being patient in attempts to clarify and master what is observed and experienced. Therefore, students were expected to become more tolerant of the ambiguity associated with group and interpersonal events as a result of the course, and an inventory measuring their attitudes towards ambiguity was expected to show a greater degree of tolerance.

Discriminating Variables. Discriminating variables are those expected to distinguish between those who will gain from the course and those who will not, Two types of discriminating variables were chosen for this study--demographic and locus of control.

Six demographic variables were chosen: the student's major, whether or not the student has (or has had) supervisory experience, the degree to which the student's present or previous jobs require interaction, the skill level of present or previous jobs, and age.

Locus of control (8) represents beliefs as to the responsibility for one's successes and failures. Those with an internal locus of control believe that their successes and failures are contingent on their own behavior. Those with an external locus of control believe that successes and failures are due to chance.

METHOD

Subjects

The subjects were 28 college juniors and seniors enrolled in an Organizational Behavior course at a midwestern university.

Demographic Distribution

Sex: There were eighteen males and ten females.
Major: Sixteen majored in Management, three in Personnel Management, three in Aviation Administration, two in Marketing, one in Industrial Management, and three in Office Administration.
Supervisory Experience: Ten of the students had been supervisors, two had jobs which were supervisory to a small degree, and ten had no supervisory experience. For six of the students, the degree of supervisory experience could not be determined.
Age: The age range was from 20 to 39. Sixteen of the participants were between the ages of 20 and 2l and seven were 22 or 23. The other five students were 24, 25, 27, 30 and 39.
Whether Jobs Required Interaction: Seven of the students had jobs with great need for interaction with people, seven had jobs with medium need, eight had jobs with low need and four had jobs with very low need. For two, the degree to which the jobs required interaction could not be determined.
Skill Level of Jobs: Four of the students had jobs of the unskilled variety, five had semi-skilled jobs, nine had skilled lobs and seven had jobs requiring great skills. For three of the participants, the skill level of present or previous jobs could not be determined.

Variable Measures

Gain Scores. Self-concept in Groups was measured by a semantic differential scale developed by Bennis and Burke (1). Students were to respond to each of nineteen bi-polar items in terms of how they felt about themselves in groups. Eighteen of the nineteen items have been previously factor analyzed by Bennis and Burke (1) into three general factors: one indicating how good or valued one felt in groups, a second indicating how strong one felt in groups and a third indicating how active one felt in groups. This semantic differential instrument then yields twenty-two scores: one for each of nineteen specific items and one for each of the three general factors.

Tolerance of Ambiguity was measured by scores on the Intolerance for Ambiguity Scale (3), which consists of 16 seven-point Likert-type items and yields one Intolerance of Ambiguity score.

There was a pre- and a post-test administration of gain variable measures, and gain scores were computed by subtracting the pre-test from the post-test score. For example, if a given student not a 43 on the Intolerance of Ambiguity Scale pre-test and a 1.6 on the comparable post-test, then the Intolerance of Ambiguity Gain score was 46-43 or +3. Twenty-three such gain scores were computed: one Intolerance of Ambiguity Gain (IOAG) score, nineteen Semantic Differential Item Gain (SDIG) scores and three Semantic Differential Factor Gain (SOFG) scores -- namely, Value, Strength and Activity.

Locus of Control. Locus of Control was measured by the Scale to Measure Internal vs. External Locus of Control (8). That scale consists of 29 forced choice items, of which six are fillers, and yields one external locus of control score.

Procedure

The Self Concept in Groups Semantic Differential and the Intolerance of Ambiguity instruments were administered for the first time during the first class of the term and later during the second to the last class of the term. Students supplied demographic information during the first class. The Locus of Control Questionnaire was administered during the ninth week of the fifteen week term. Students were aware from the onset that they were participating in a research project assessing the course. The purpose of the study and the raw data were fed back to the students during the last session of the term.

HYPOTHESES

It was expected that the students who could see the relevance of course concepts to their present lives would gain more from the course than those who could not see the relevance. Since the focal course dealt with interpersonal and group phenomena, it was expected that those people to whom interpersonal and group issues were more important would gain more. Therefore, with respect to demographic indices, the following types of students were expected to gain more as a result of the course (that is, become more tolerant of ambiguity and change their self concept to see themselves as more valuable, stronger and more active in groups)

1.   students majoring in Management or Personnel Management--those being "human interaction" majors.
2.   students claiming to have had supervisory experience.
3.   older students.
4.   students having had jobs requiring interaction.[1]

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[1] As judged by two raters.

5. students having had highly skilled jobs.[2]

With respect to locus of control, internals were expected to gain more from the course because it encourages students to attempt to control consequences. Because internals believe they can control events and because the course encourages them to do so, they will perceive the course as relevant and actively attempt to control events, thus gaining more from the experience as a result. Because externals believe chance causes consequences, they will not see the relevance of the course, be more passive, and thus gain less from participating.

RESULTS AND DISCUSSION

The results are presented in Tables 1 and 2. The statistic depicting the relationship between gain and discriminating variables varies with the type of discriminating variable. When the discriminating variable is discrete, such as major, the analysis performed was an analysis of variance and the relationship is depicted by an F test. When the discriminating variable is continuous, such as age, the relationship is depicted by a correlation coefficient. F tests are shown in Table 1, correlations in Table 2 for the twenty-three gain variables.

Major. Table 1 shows that neither Intolerance of Ambiguity Gain (IOAG) scores nor Semantic Differential Factor Gain (SDFG) scores varied with student major. This indicates that students majoring in one discipline are equally likely to become more tolerant of ambiguity, and are equally likely to feel more valuable, stronger, and more active in groups as a result of the course as are students majoring in other disciplines. Table 1 also shows that five Semantic Differential Item Gain (SDIG) scores did vary as student major varied. Further analysis of these SDIG results, not displayed in a table, shows that (1) Office Administration majors came to see themselves as more successful, softer, more likely to lead and less involved than other majors, (2) Marketing majors came to see themselves as more involved and less successful than other majors, (3) Personnel Management majors came to see themselves as harder and less likely to lead than other majors, (4) Aviation Administration majors came to see themselves as more involved and more central relative to others and (5) Management majors came to see themselves as less central than other majors as a result of the course.

Supervisory Experience. Table 1 shows that IODG scores varied with supervisory experience. Those with little or no supervisory experience became more tolerant of ambiguity as a result of the course to a greater degree than those with a great deal of supervisory experience. SDFG scores did not vary with supervisory experience. Scores on one SDIG variable, central -peripheral, varied significantly with levels of supervisory experience. Those with little or no supervisory experience felt more central as a result of the course.

Age. Table 2 shows that age correlated positively at the .05 level with IOAG scores. This correlation indicates that younger students were more likely than older ones to become more tolerant of ambiguity as a result of the course. The correlations between age and all three SDFG scores (value, strength and activity) were near zero. Age correlated negatively with three SDIG scores: harmonious - discordant, involved withdrawn, and successful - unsuccessful. These correlations indicate that younger students were more likely to see themselves as more harmonious, more successful and more involved in groups as a result of the course.

Whether Jobs Require Interaction. According to Table 2, one SDFG score--strength--correlated at least at the .10 level with the degree to which the jobs possessed by students require interaction with people. That correlation suggests that those whose jobs require interaction felt stronger about themselves in groups as a result of the course. The degree to which jobs require interaction correlated near zero with the other two SDFG scores and with IOAG scores. Four SDIG scores correlated significantly with the degree to which jobs require interaction. These correlations indicate that students with jobs requiring a great deal of interaction tended to see themselves as more successful, more independent, more unfriendly and more rigid in groups as a result of the course.

Skill Level of Jobs. Regarding SDFG scores, Table 2 shows that students holding highly skilled jobs tended to see themselves as stronger in groups as a result of the course but also less valuable. It also shows that four SDIG scores correlated significantly with skill level. Students holding highly skilled jobs were more likely to see themselves as more independent, more involved, less included and less friendly in groups as a result of the experiential course.

Locus of Control. Locus of control did not correlate significantly with IOAG scores or SDFG scores. It did correlate with six SDIG scores. These correlations reveal that those with an internal locus of control were more likely to feel more central, silent, unimportant, discordant, rigid and soft as a result of the course.

DISCUSSION

The purpose of this study was to discover who gained the most from experiential learning. The results contribute to that discovery. However, in general they run counter to the study's hypotheses. It was hypothesized that the students most likely to see the relevance of the course would gain the most; the results show otherwise. With respect to age, it was expected that older people would be more likely to see the relevance of the experiential course and therefore gain more from it. However, it was younger people who became more tolerant of ambiguity and who felt more successful, harmonious and involved in groups as a result of the course. It was expected that those with the most supervisory experience would gain more. However those who had the least supervisory experience became more tolerant of ambiguity and felt more central in groups at the end of the term than they did at the beginning. Regarding major, those expected to gain the most -- namely, Management and Personnel Management majors -- gained less than other majors. Personnel Management majors came to see themselves as less likely to lead and Management majors came to see themselves as less central than other majors as a result of the course. Regarding locus of control, it was those who leaned toward external locus of control who gained, not the internals as expected. It was externals who felt themselves to be more talkative, more important, more harmonious, harder and more adaptable in groups as the course progressed. In other words, it was those with the least experience with the course phenomena and those least likely to see the relevance of the course who gained the most. Those who had the

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[2] As judged by two raters.

TABLE 1 -- ANALYSIS OF VARIANCE GAIN VARIABLES
BY DISCRETE DISCRIMINATING VARIABLES

GAIN VARIABLES	DISCRIMINATING VARIABLES					
	Major			Supervisory Experience		
	df		F	df		F
	Between Groups	Within Groups		Between Groups	Within Groups	
Tolerance of Ambiguity	5	16	.25	2	14	4.25***
Self Concept in Groups						
Evaluative	5	15	.15	2	17	.36
Sensitive-Insensitive	5	20	.13	2	17	1.99
Close-Distant	5	18	.86	2	17	.39
Good-Bad	5	20	.10	2	17	.10
Warm-Cool	5	20	1.36	2	16	.43
Included-Excluded	5	19	.22	2	17	.36
Harmonious-Discordant	5	20	.84	2	17	.51
Friendly-Unfriendly	5	20	.71	2	17	.29
Adaptable-Rigid	5	19	.53	2	16	1.61
Accepted-Rejected	5	19	.76	2	16	.69
Strength	5	18	1.07	2	17	1.24
Strong-Weak	5	20	.43	2	17	.09
Hard-Soft	5	20	6.13***	2	17	2.01
Important-Unimportant	5	20	1.56	2	17	1.09
Leads-Follows	5	20	2.52*	2	17	1.96
Central-Peripheral	5	19	4.35***	2	17	4.0l**
Independent-Dependent	5	20	.72	2	17	1.42
Active	5	18	2.06	2	14	.09
Talkative-Silent	5	20	1.24	2	17	.11
Active-Passive	5	20	.65	2	17	.08
Involved-Withdrawn	5	18	2.96**	2	15	.21
Successful-Unsuccessful	5	20	3.13**	2	17	.33

*p less than .10   ** p less than .05   *** p less than .01

maturity and experience to take advantage of the experiential course gained little.

Why this trend occurred is not clear from the results. However, consideration of how different people might approach an experiential course focusing on group work may help to explain the data, at least those pertaining to self concepts in groups. Students with little group and job experience may have entered the course feeling somewhat intimidated by it. With little experience in groups, these people probably underestimated their capabilities in them. As the course progressed these people worked hard, became comfortable with their groups and influenced their groups' progress. Thus their image of themselves in groups became more positive. Older students with relevant job experience probably entered the course very aware of advantages inherent in their experiences. They expected to be central and important in classroom groups and responded to the first "self concept in groups!! instrument accordingly. Actual events of the course, however, did not confirm these initial expectations. Experience and maturity did not always help these people arrive at the correct approaches to the course's academic projects and did not always help them to be influential in their groups. As a result, these people's images of themselves in groups probably became less positive.

While the results of this study are understandable, they do not clarify the more general picture with respect to who gains and who does not from experiential learning. The fact is that the results of this study, which suggest that the younger, less experienced student gains more from experiential learning, are inconsistent with the hypotheses of this study. They also appear inconsistent with the casual observation that the older and more experienced student is more motivated by, more involved in, and more appreciative of the experiential experience. Only future research will further clarify who gains the most from experiential learning. However, it is possible and could be hypothesized that younger, less experienced students change the most in experiential classes, but older, more experienced students appreciate the experience to a greater degree. Perhaps, the students who change the most as a result of the experiential course are not the same students who appreciate it the most.

This study has a number of shortcomings. First and foremost, its N is very low. Although the study yields significant, interpretable results, it is based on the responses of 26 students in one class, and the results may be unique to that class. Even if they are not unique, results based on one class with 26 students are hardly generalizable. Therefore the study should be replicated in many classes. A second shortcoming involves the definition of "student gain". It this study, it was defined narrowly, in terms of changes in two personality traits -- self concept in groups and tolerance *of* ambiguity. The construct "student gain' is much broader and more complex than this study's definition suggests. Although perhaps

TABLE 2 -- CORRELATION AMONG GAIN
VARIABLES AND CONTINUOUS DISCRIMINATING VARIABLES

GAIN VARIABLES	Age	Need for People on Job	Skill Level	Locus of Control
		DISCRIMINATING VARIABLES		
Tolerance of Ambiguity	.38**	-.26	.08	.06
Self Concept in Groups				
Evaluative	.26	-.16	-.39**	.01
Sensitive - Insensitive	.11	.05	.04	.23
Close - Distant	.05	-.19	-.09	.21
Good - Bad	.16	.09	.25	.15
Warm - Cool	.13	-.07	-.03	.10
Included - Excluded	-.05	-.08	-.27*	-.25
Harmonious - Discordant	-.51**	-.03	.10	.29*
Friendly - Unfriendly	.07	-.42**	-.44**	-.24
Adaptable - Rigid	.12	-.38**	-.22	.27*
Accepted - Rejected	.02	-.09	.04	.22
Strength	-.02	.34*	.40**	-.13
Strong - Weak	.13	.19	.11	.10
Hard - Soft	.10	-.25	.02	.28*
Important - Unimportant	-.16	-.08	.21	.27*
Leads - Follows	-.04	.00	-.09	-.17
Central - Peripheral	.01	.23	.00	-.35**
Independent - Dependent	.05	.34**	.67***	-.22
Active	-.04	-.11	.11	.25
Talkative - Silent	-.15	.07	.17	.29*
Active - Passive	.00	-.12	-.15	-.03
Involved - Withdrawn	-.35**	-.04	.28*	.23
Successful - Unsuccessful	-.35**	.30*	.18	.09

* p less than .10   ** p less than .05   *** p less than .01

impractical, a study should be undertaken where the complexity of student gain is more fully represented. Student gain should be measured in terms of academic achievement, analytical and diagnostic skill development, communication skill development, assertiveness, attitude change and gain in self confidence as well as changes in personality traits. Finally, the discriminating variables in this study were not well defined and the procedures for measuring and categorizing such variables was quite casual. For example, whether a student had supervisory experience was determined by student answers to one question, "Have you had supervisory experience?" ("Yes," "To a slight degree" or "No"). Also, the ratings of the variable-skill level of jobs possessed by students-were made by two graduate assistants who worked together to categorize jobs listed by the participants. Participants made these lists when asked verbally by the instructor to list recent jobs. In future studies, such discriminating variables should be defined and measured more scientifically.

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