

CHAPTER 18

EVALUATION OF EXPERIENTIAL LEARNING

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This chapter deals with experiential learning evaluation. Its purpose is to review the literature appropriate for assessing the effectiveness of experiential instructional methods in order to draw conclusions about the value and effectiveness of experiential learning. This paper will be in four sections. The first consists of a discussion of issues which frame the scope of this review. The second contains a discussion of problems inherent in both experiential learning and the process of evaluating it, problems which make it difficult to undertake rigorous experiential learning evaluation studies. The third consists of a review of experiential evaluation research. The fourth consists of tentative conclusions drawn from the first three sections, a further discussion of research related issues, and suggestions for further research.

SCOPE

Since the construct experiential learning is not well defined and since there are many articles potentially relevant to a discussion of experiential learning evaluation, establishing the scope of this chapter is important.

The following discussion focuses on three issues defining the limits of this article:

1. What are appropriate experiential learning assessment studies to review?
2. What type of research study is appropriate?
3. What are relevant dependent variables?

Appropriate Experiential Learning Assessment Studies

Since the purpose of this chapter is to draw conclusions about the value of experiential learning to the business school classroom, all literature relevant

to accomplishment of that purpose should be included. In order to define what literature is relevant, two questions arise. The first regards the pedagogical unit of research focus. What is being evaluated or reviewed in the study? Is it a program, a teaching method, or an exercise? It should be noted that this question has been discussed earlier in this text (Gentry, 1990). This chapter will review studies of experiential exercises, courses, or programs taught either entirely or in part with the experiential method. In addition, part-time, long-term, or short-term experiential training or management development programs will be reviewed. This study will also focus on teaching methods clearly innovative and experiential in that they require the behavioral and cognitive involvement of the participant. This review will stay away from studies of full-time on-the-job training programs studies because results from these studies do not apply in business school classrooms. This article will not review studies concerned with the case method (except where the purpose of the case method is to give the learner experience in a desired case-related skill, e.g., problem-solving), or traditional active teaching methodologies, such as solving accounting problems in an accounting course.

The second scope-related question involves the context of the studies reviewed. Studies in educational environments other than business schools may be generalizable to the business school context, and some are included in this chapter. For the most part all studies in universities are transferable, as are studies of programs and exercises outside of universities, as long as they are applicable to the business school setting. Contexts outside the university include sensitivity training groups, management development programs, and high schools. In addition, findings from some laboratory experiments are generalizable to the experiential classroom, and these studies will also be reviewed.

Appropriate Types of Research Studies

Essentially three types of studies will be included. These types were chosen because these are the types of research most frequently undertaken, and because their results are useful for improving the business school classroom. These are straight evaluation studies, contingency studies, and studies focusing on features of experiential learning.

Straight Evaluation Studies

in this type, the purpose of the study is to assess effectiveness of experiential courses, exercises, programs, or methods. Researchers seek whether the experiential method produced intended results or is superior to another method given some criterion.

Contingency Studies

These studies are designed presuming that there is no one best way to teach something, that different participants may react differently to the same set of circumstances (Brenenstuhl and Catalanello, 1979), and that a given teaching method may be more or less effective depending on conditions (Gosenpud, 1982).

Assessment of Experiential Features

These are assessments or features of experiential exercises or programs, rather than assessments of the exercise or program itself. Examples of features include exercise duration or complexity of decision-making required in an exercise. Burns, Gentry, and Wolfe (1990) and Wolfe (1985) have listed potentially assessable features of the experiential method.

Relevant Dependent Variables

The dependent variable refers to the terms of evaluation or what has changed or improved as a result of experiential learning. This study will focus on all variables which scholars have presumed to be influenced by experiential learning. These include cognitive learning, behavioral change, skill development, and attitude change. Bloom's taxonomies (Bloom et al., 1956; Krathwohl, Bloom, and Masia, 1964) are appropriate means for categorizing outcomes. Attitude change includes attitudes toward the course or program.

PROBLEMS

The most obvious problem with experiential learning evaluation research is the lack of rigorously designed studies. There are relatively few studies attempting to assess experiential learning effectiveness (Brenenstuhl and Catalanello, 1979; Bunker and Cohen, 1978; Sugges, 1981) and most of the research that does exist assessing experiential learning lacks sufficient rigor (Cleggs, 1987; Wolfe 1981). Wolfe (1981) feels that maintaining rigor in experiential learning assessment *is* important since there is controversy surrounding experiential learning's value, and because nonrigorous evaluation research only adds to the confusion surrounding the controversy.

Wolfe (1975) also points out that many features of the ideal research design are probably impossible to implement in experiential learning. These include random selection of treatment and control groups, proper pretesting, standardized appropriate pre- and post-testing, and capturing all the sources of learning that occur in an experiential learning environment for measurement purposes. Kelley and Easton (1981) also point to the difficulty

for research purposes of sufficiently controlling all the factors that impact the experiential learning situation. For these authors, these factors include teacher attitudes (toward the course, the teaching methodology and students), student values, the teacher-student relationship, and classroom features such as class size.

Identifying and specifying outcomes of experiential learning is particularly problematic. Usually the teacher or designer of an exercise defines what is to be learned. However, the learner often learns things not intended by the designer, and often this unintended learning is more valuable because it is relevant to the learner. The problem for assessing experiential learning is that evaluation, defined by the designer, may miss the real worth of the experiential experience because what is valuable for the learner is defined by the learner and may have nothing to do with the designer's intention.

In addition, in experiential learning intended outcomes are often vague since the focus of experiential learning is usually on very complex, abstract phenomena. Let us take for example, an exercise focusing on leadership style. Leadership style is not very concrete, and it is complex in that it encompasses many behaviors. It would be difficult for an evaluator to specify a key goal for a leadership style exercise and to designate appropriate concrete measures to assess goal attainment. In such an exercise, different learners are learning different things, making thorough evaluation difficult.

Therefore, as Adelman (1986) suggests, it is important to focus on much more than how well an experiential program has accomplished its intended outcomes. The fact that specifying outcomes is difficult suggests that dependent variables should be open-ended. Instead of, or in addition to, trying to predefine what participants will have learned and how they will have changed, participants should simply be asked what they have obtained from a given experience. This suggestion runs counter to some common wisdom. Burns, Gentry, and Wolfe (1989), House (1979), and Wolfe (1976) are among the many researchers who stress the importance of keeping dependent measures concrete and specific and measuring dependent variables as precisely consistent with designer goals as possible. The above argument proposes avoiding such specification.

A more subtle problem with experiential learning evaluation research is that most studies are of the straight evaluation variety and very few are theory based. From straight evaluation studies, readers learn whether a teaching method is effective or not. From theory-based evaluation studies, readers discover other things in addition. For example, why is a given teaching method more effective, or what about it makes it effective? There are at least three reasons for the lack of theoretical bases for most experiential evaluation research. First, experiential programs and exercises are often chosen without a great deal of thorough forethought. If program choice is not based on forethought, then evaluation is unlikely to be theory

based. Second, until recently experiential learning researchers were intent on proving the worth of experiential learning. This facilitated evaluative research rather than theoretical research. Third, the subfield of pedagogy evaluation has always accepted less rigor than many other subfields in a given discipline, and this has been true in business, education, and management development. One of the features of low rigor research is a lack of theoretical bases. Since low rigor is accepted, non-theory based experiential evaluation research has been acceptable for presentation and publication.

There are notable exceptions, in that some previous studies have been theory based. Basuray and Scherling (1979) and Brenenstuhl and Catalanello (1979) have done studies based on contingency theory hypotheses. Gentry and Burns (1983) have done research testing hypotheses identifying variables crucial to the success of experiential exercises. Bowen (1987), in a nonresearch article, developed a theory designating environmental features that make for greater learning in an experiential setting. Finally, Burns, Golen and Gentry (1983) undertook a study which emerged from hypotheses concerning how experiential learning differs from other learning methods,

REVIEW OF STUDIES

Straight Evaluation Studies

Table 18-1 summarizes straight evaluation studies or studies simply evaluating experiential learning. These studies either compare experiential learning with other pedagogies on some criterion variable or show changes in some criterion from before to after the implementation of an experiential pedagogy.

Table 18-1 is organized by dependent variable. Contained in it are 14 articles focusing on cognitive learning as a dependent variable, 19 using attitude change as a criterion, and 18 focusing on behavioral acquisition or change as a criterion.

Studies in Table 18-1 are identified by author(s). This table shows the kind of pedagogy assessed (either a course, part of a course, or training program) in each study, whether a control group was utilized, the control group's nature and how it was selected, the specific dependent variable (or variables), how the dependent variable was measured, whether or not there was pre-testing, and the results of the given study.

Cognitive Learning

The 14 articles in Table 18-1 utilizing cognitive learning as a criterion yield 23 comparisons of objective exam results between experiential and other kinds of teaching methodologies. The table also shows four comparisons

TABLE 18-1
Summary of Straight Evaluation Studies

Authors	Type of Experiential Pedagogy Assessed	Control Groups and Method of Selection	Criterion	Measure of Criterion	Pretest	Results
<i>i. Cognitive Learning as a Criterion Variable</i>						
<i>A. University semester long classes</i>						
Basuray and Scherling (1979)	Two semesters of an organizational behavior course	A lecture/discussion section of same course. Selection by student registration	1) Cognitive learning 2) Cognitive complexity	Objective graded exam Nongraded objective standardized exam Two objective standardized exams	Yes Yes Yes	No differences No differences No differences
Brennstuhl and Catalanello (1979)	Lab section of a management course which also used lectures	Discussion and simulation labs of same course. Selection random	1) Cognitive learning 2) Problem solving skills	Objective graded exam Objective nongraded exam Case analysis	Yes Yes Yes	No difference between experiential and other groups No difference between experiential and other groups No difference between experiential and other groups
Hoover and Whitehead (1979)	Management course	Lecture/discussion section of same course. Selection by student registration	Cognitive learning	Objective graded exam Objective nongraded exam	No No	No differences No differences
Kelley (1979)	Two semesters in a personnel management course	Lecture/discussion section of same course. Selection by student registration	Cognitive learning	Objective graded exam	No	Experiential section scored higher
Wolfe (1976)	Policy course	Case/simulation section of same course. Selection random	Cognitive learning	Essay exam		Experiential section scored lower

TABLE 18-1 (continued)

<i>B. Units or parts of University Classes</i>						
	A course unit on site selection	Simulation, case and discussion question groups. Selection random	Cognitive learning	Objective exam on topic	No	No difference between experiential and other groups
Burns and Sheffield (1952)						
Graf and Couch (1985)	A supervisory training program for under-graduates	Applicants for same program not yet receiving training	Cognitive learning	Objective exam on topic	No	No differences
Minor, Das and Gale (1982)	Specific units in an organizational behavior course	Case and discussion groups on same topics. Selection random	Cognitive learning	1) Objective exam on topic 2) Essay exam on topic 3) Objective exam four months later	No	No difference between experiential and other groups No difference between experiential and other groups No difference between experiential and other groups
Ross, Hughes and Hill (1981)	Field experience for pre-service teachers	Group given lectures on topics covering field experience. Selection random	Cognitive learning	1) Exam covering field experience 2) Objective graded course exam	No	Superior scores for those with field experience No differences
<i>C. Programs for Managers</i>						
McAllister (1983)	A program teaching sensitivity towards group processes	Untrained managers were asked to assess other group experiences. Selection method not specified	Perception of learning	Questionnaire	Yes	Trained groups perceived they increased learning to a greater degree than untrained group perceived learning in other experiences
Zenger and Hargis (1982)	General supervisory training in five organization	Untrained groups in four organizational training programs. Selection method not specified	Cognitive learning	Objective exam	Yes	Trainees gained from pre- to post-test

TABLE 18-1 (continued)

<i>D. Elementary School Programs</i>						
	Active self organization of concept acquisition	Group for whom concepts were organized by teachers (passive organization)	Concept acquisition	Objective exam	No	Active organization group learned more
<i>E. Reviews</i>						
Armstrong (1979)	Reviewed five studies of courses: 3 undergraduate courses in marketing, 2 marketing courses in a management institute	Lecture section of same courses. By student selection	Cognitive learning	Objective test	No	No differences in any of the studies
Caroll, Paine and Ivancevich (1972)	Reviewed studies assessing the case method and role playing	Lecture programmed learning and films. Selection method not specified	Cognitive learning Problem solving skill	Unspecified Unspecified	Unspecified Unspecified	Case method found to be superior to lecture in one study reviewed Role playing found to be effective in all of studies summarized
<i>II. Attitude Acquisition and Change as Criterion Variables</i>						
<i>A. Attitudes towards the experience</i>						
Armstrong (1979)	Reviewed four studies of courses: 2 undergraduate courses in marketing; 2 marketing courses in a management institute	Lecture section of same courses. Selection by student selection	Attitudes towards course	Questionnaire	No	Experiential students had a more favorable attitude in all sections

TABLE 18-1 (continued)

Brenstuhl and Catalanello (1978)	Lab section of a Management course which also used lectures	Discussion and simulation labs of same course. Selection random	Enjoyment of course	Questionnaire	No	1) Experiential students enjoyed course to a greater degree than discussion students 2) Simulation students said they accomplished more than experiential students			
Burns and Sherrell (1982)	A course unit in site selection	Simulation, case and discussion question groups. Selection random	Attitudes towards courses	Questionnaire	No	No difference between experiential and other groups			
Hoover and Whitehead (1979)	Management class	Lecture/discussion section of same course. Selection by student registration	Attitudes towards course	Questionnaire	No	Experiential students perceived greater benefits than discussion question group			
Kelley (1979)	Two semesters in a personnel management course	Lecture/discussion section of same course. Selection by student registration	Attitudes towards course	Questionnaire	No	Experiential students had more favorable attitudes			
McAllister (1985)	A program teaching sensitivity towards group process	Untrained managers were asked to assess other group experiences. Selection method not specified	Attitudes towards course	Questionnaire	No	Experiential students had more favorable attitudes			

TABLE 18-1 (continued)

Moskowitz, Schaps and Malvin (1982)	Training program for teachers to help students develop socio-emotionally	Untrained teachers. Se- lection method not specified	Attitudes towards course	Questionnaire	No	Experimentally trained students had favorable attitudes towards the program
			Acquisition of skills	Questionnaire	No	Experimentally trained students said they ac- quired more skills
			Attitudes towards goal achieve- ment	Questionnaire	No	No differences
B. Changes in Attitudes from before and after an experiential experience						
1. Sensitivity Training						
Baumgartel and Goldstein (1967)	Sensitivity training fo- cused human rela- tions course for undergraduates	None	Political values	Allport-Vernon-Lindzey study of values (1962)	Yes	No change as a result of training
			Religious values	Allport-Vernon- Lindzey study of values (1960)	Yes	Religious values decreased with training
			Need for self to be in control	Firo-B scale (Schutz 1958)	Yes	No change as a result of training
Burke and Bennis (1961)	Sensitivity training for adults	None	Self-concept ideal discrepancy	Semantic differential	Yes	Discrepancy decreased with training
Gassner, Gold and Snadowsky (1964)	Sensitivity training	Untrained individuals matched as to gender and profession	Self-concept ideal discrepancy	Semantic differential	Yes	Discrepancy for both trained and control groups decreased significantly
Kassarjian (1965)	Sensitivity training for adults in an exten- sion course	Adult students in an evening Business Ad- ministration class. Se- lection method not specified	Inner vs. outer- directedness	Riesman's scale (Ries- man, Glazer and Denny 1958)	Yes	No differences in changes in criterion measure between trainees and controls

TABLE 18-1 (continued)

King and Janis (1956)	Role playing	Untrained. Selection method not specified	Attitudes on topic related to role play	Questionnaire	Yes	Role playing group changed opinions in direction towards their role to a greater degree than controls
3. On-the-Job Training						
Grater (1959)	Leadership training for managers	None	Self concept, ideal self-concept discrepancy	Bills index of adjustments and value	Yes	Discrepancy decreased with training
Hand, Richards and Slocum Jr (1973)	Human relations training for managers	Untrained managers. Selection random	Attitudes towards leadership	Leadership opinion questionnaire (Fleishman, 1953) 90 days past training— 18 months past training—	Yes	No differences over time for trainees or controls Trained group increased significantly in attitude of consideration; for controls no differences between pre and post test
			Supervisory behavior description questionnaire (Fleishman, 1953) 90 days past training— 18 months past training—			No differences over time for trainees or controls Both trainees and controls increased significantly in attitudes of consideration
			Need for others to be in control Need for others to be affectionate;	FIRO-B scale (Schutz 1958) FIRO-B scale (Schutz 1958)	Yes Yes	No change as a result of training Need for others to be affectionate decreased with training

TABLE 18-1 (continued)

Swierczek and Carmichael (1985)	Supervisory training	None	Attitudes towards subordinates	Likert survey	Yes	Trainees attitudes changed towards vocating greater subordinate involvement
<i>III. Behavioral Change and Skill Development</i>						
<i>A. Sensitivity Training</i>						
<i>1. Actual Studies</i>						
Boyd and Ellis (1964)*	Sensitivity training for middle managers	Control group utilized. Selection method not specified	Unspecified	Open ended questions to co-workers regarding trainee changes after re-turning to job	No	Increased sensitivity, improved communication and interpersonal skills for trainees. Results not reported for controls
Bunker (1965)	Sensitivity training for high school principals	Each trainee nominated an untrained control	Unspecified	Open ended questions to co-workers regarding trainee changes after re-turning to job	No	Sensitivity increased and communication and interpersonal skills improved for twice as many trainees as controls
Underwood (1965)	Sensitivity training for supervisors	Control group of matched supervisors	Unspecified	Trainees reported on changes	No	Trainees gained in interpersonal skills
Valiquet (1964)	Sensitivity training for middle managers	Control group formed by asking trainees to nominate a control who had never been in a T-group	Unspecified	Open ended questions regarding trainee changes after re-turning to job	No	Increases in role flexibility and greater tolerance of differences were reported by greater number of trainees than controls
<i>2. Reviews</i>						
Campbell and Dunnette (1966)	Reviewed five studies on the effects of sensitivity training	Control group used in one study but method not specified	Assessed T-group effectiveness in terms of trainees' vocabulary after training	Asked trainees to describe people and content analyzed answers	Yes	Increased interpersonal terms used to describe people from pre to post training

TABLE 18-1 (continued)

B. Roles Play Experiments					
1. Actual studies					
	None	Sensitivity	Responses to essay exams and cases	Yes	Sensitivity increased
Bolda and Lawshe (1962)†					
2. Reviews					
Carroll, Paine and Ivancevich (1975)	Not specified	Interviewing and leadership skills	Not specified	Not specified	Interviewing and leadership skills improved
Fry, Kidron and Schriesheim (1975)†	Not specified	Confidence, behavior habit change	Not specified	Not specified	Confidence increased. Behavioral habits did not change
C. Management Training					
Goldstein and Sorcher (1973)	Two training programs which combined modelling, role playing and performance feedback a. For nurses b. For supervisors to learn orientation, motivation, and disciplinary techniques	Untrained nurses. Selection random Untrained supervisors. Selection random	Empathy Turnover and productivity	Coworker ratings Unit statistics	Yes Yes
Hand, Richards and Slocum Jr (1973)	On the job training program for middle managers	Control group used but composition not specified	Middle manager sensitivity, consideration and production orientation	Coworker assessment	Yes Trainees became more considerate and sensitive
Zenger and Hargis (1982)	On the job supervisory training	Untrained control group used. Selection method not specified	Sensitivity towards subordinates	Coworker ratings	Yes Trainees became more sensitive towards subordinates.

TABLE 18-1 (continued)

<i>D. Other types of training</i>						
	Training in Micro-counselling	Trainees themselves served as controls. They were tested three times, twice before training and once after training	Counselling skill assessment	Trainer observations	Yes	Counselling skills increased as a result of training
Gill, Berger and Cogar (1983)						
Smith, Szabo, and Trueblood (1980)	Manipulative instruction for elementary school children	Similar students received graphic instruction. Selection random	Metric measure skill acquisition	Objective examination in skill acquisition	No	Students who received manipulative instructions performed better.

Notes: *Taken from Campbell and Dunette (1968)

†Purpose of study was to do research and not to assess a particular experiential pedagogy

of non-objective or essay exam results. Of the 27 comparisons, 20 yielded no differences between results from experiential and other pedagogies.

Drawing conclusions from these data is not justifiable, given that the data are only based on 12 studies and two reviews. However, two points should be made. First, the majority of the data suggests that the experiential method is neither superior nor inferior to others in helping students learn cognitively. Second, a tentative hypothesis emerges from two of the studies. DiVesta and Peverly (1984) hypothesized that the active self-organization of tasks would result in a more generalized understanding of concept formation; as hypothesized, the results show superiority for the active method. Also Ross, Hughes, and Hill (1981) found superiority for student teachers in the field (over those who stayed in the classroom) in terms of knowledge covering the field experience, but not knowledge covering the whole course. Both of these studies were well designed with adequate controls and, in both, care was taken to insure that controls were taught the material that those in the more experiential groups learned actively. In both cases, the experientially-taught group showed greater cognitive learning for the material which the experiential group learned actively. These studies suggest that when tests closely examine material covered in the experiential learning situation, those taught experientially do better.

Attitudes

The 19 studies utilizing attitudes as a dependent variable are of two types. Seven of the studies assessed an experiential experience in terms of the attitudes towards the experience, and the other 12 assessed the experiential pedagogy in terms of changes in attitudes from before to after an experiential experience.

The seven studies assessing experiential learning in terms of attitudes towards the experience yielded 14 comparisons. For ten of the comparisons, students taught by the experiential method expressed significantly more positive general attitudes towards their learning experience than did those students exposed to other teaching methods. In these studies, positive general attitudes were in terms of greater course benefits, a higher quality teacher-student relationship, more satisfaction, or a greater feeling that skills were acquired.

Twelve studies assessed the experiential method in terms of changes in attitudes from before to after an experiential experience. Six of those studies assessed sensitivity training in terms of attitude change, three assessed role playing and three assessed on-the-job training programs. Regarding the impact of sensitivity training, no pattern emerges. Some studies show changes in attitudes from experiencing sensitivity training, others show no changes. And, too few studies focused on any specific attitude for conclusions to emerge.

The results regarding the impact of role playing and general on-the-job training indicate that attitudes do change as a result of these experiences. All three studies assessing the influence of role playing showed significantly more attitude change for role playing trainees from before to after training than for controls, and all three studies assessing the influence of general on-the-job training programs show significantly greater attitude change for on-the-job program trainees than for controls.

Behavioral Change/Skill Acquisition

Eighteen of the articles in Table 18-1 which assessed experiential exercises or programs feature behavioral change, skill acquisition, or skill development as an indication of effectiveness. Nine of these assessed sensitivity training, three assessed role playing, two assessed on-the-job training programs, and four assessed programs that were either multifaceted or difficult to classify.

Of the 18 studies, 17 reported positive results in that experiential methodologies helped participants either acquire skills or change behavior. This suggests that experiential learning techniques are helpful in effecting behavioral results. All nine of the studies assessing sensitivity training report significant behavioral change or skill acquisition for trainees. Two of the three role playing studies report positive results, and both multifaceted programs and both the general on-the-job managerial training programs report positive results. More than other specific behavioral dependent variables, these positive results were in terms of increased sensitivity, increased consideration, and increased interpersonal competence on the part of trainees.

It should be noted that some of the above results transferred beyond the training environment. Hand, Richards, and Slocum (1973) found training effects on the job eighteen months after training. Goldstein and Sorcher (1973) found effects in unit productivity and turnover after training. So, for this study training transferred beyond the trainee's behavior into unit-wide quantitative results. And, seven of the behavioral acquisition studies utilized coworker or supervisor observation of trainees back on the job as ways to measure effectiveness. For these studies, too, training survived the back home transfer, and training goals were realized after training concluded.

Two of the studies that dealt with behavioral acquisition were in fact experiments rather than training programs. Both utilized experimental controls, and both report favorable outcomes for experiential learning. Gill, Berger, and Cogar (1983) found that trainees learned a minicounseling technique significantly better after observing and discussing the technique than before. The trainees served as their own controls and were tested three times with training coming between times 2 and 3 and with learning scores increasing significantly more between test 2 and 3 than between 1 and 2. These results suggest that positive outcomes emerge from an "involved" instructional method. Smith, Szabo, and Trueblood (1980) found that

subjects receiving manipulative instruction acquired metric measurement skills to a greater degree than subjects receiving graphic instruction. In this study, effectiveness was measured in clearly behavioral terms, and measures were carefully constructed to reflect instruction. The subjects were seven-year olds, but the results are meaningful because this is one of the few well-controlled experiments testing graphic versus manipulative instructions in producing behavioral outcomes, and in this study the experiential manipulative approach produced superior results.

In five of the studies in Table 18-1, behavior changes were assessed and significant changes found without prespecifying or hypothesizing the expected nature of the change. All five studies assessed sensitivity training, and all five authors explained that prespecifying behavioral changes would be inconsistent with the uniqueness of the sensitivity training experience.

Contingency Studies

There are many ways to skin a cat, and many ways to enhance learning. Contingency theory presumes that there is no best way to enhance learning, that some ways are better than others under some circumstances, but worse than others under other circumstances. Contingency means many things. It may mean that some learners learn better with one teaching method than with another. Or, it may mean that a given teaching method is effective for one type of learning task but not for another. The extent to which a given instructional method is effective has been hypothesized to be contingent on a number of factors including instructional goals, course content, instructor characteristics, learner characteristics, organizational support for the instructional method in question, and instructor-learner compatibility. However most of the contingency studies on experiential learning have focused on only one of the above factors, learner characteristics, and these ten studies are summarized in Table 18-2. This table is nearly identical to Table 18-1, with the main difference being that Table 18-2 has a column identifying the characteristics upon which instructional method effectiveness is hypothesized to be contingent.

Of the ten studies, nine were designed to test the degree to which outcomes in experiential learning are contingent on learner capability or learner personality, and six of the nine show that learning outcomes are in fact contingent on one of these two factors. Of the six, only two had control groups and the six studies varied too much with regard to dependent and contingent variables to draw conclusions. Yet for the sake of further research, it should be pointed out that in experiential learning environments, contingency hypotheses have been supported in the majority of studies.

Two studies found that Outcomes from experiential learning are contingent on characteristics other than those of the trainee, and one of those

TABLE 18-2
Summary of Contingency Studies

Author	Type of Experiential Pedagogy Assessed	Contingency Conditions	Control	Criterion	Measure	Pretest	Results
<i>a. Contingent on Characteristics of Individuals</i>							
Bennis, Burke, Cutler, Harrington, and Hoffman (1957)	Sensitivity training	Personality characteristics such as dominance and need for affection	No	Self and ideal self-acceptance in groups	Role behavior inventory	No	Personality characteristics did not affect extent of self and ideal self-acceptance
Brennstuhl and Catalanello (1979)	Management course	Learning styles (Kolb, 1974)	Discussion and simulation sections of some course. Selection random	Cognitive learning	A final exam		Convergers significantly outperformed assimilators, accommodators, and divergers in simulation and experiential sections but there were no differences across learning style in discussion sections. Accomodators were absent significantly less than other students in experiential sections, but there were no differences in absenteeism in discussion or simulation sections
Gill, Berger and Cogar (1983)	Training in Micro counseling	Experience in the specified counseling method	Trainees themselves served as controls. They were tested three times, twice before training and once after training	Counseling skill assessment	Trainer observations	Yes	The most naive trainees changed their counseling behavior the most, while experienced trainees changed the least.

TABLE 18-2 (continued)

		Age, amount of supervisory experience and locus of control (Rotter, 1966)	No	Self acceptance, tolerance for ambiguity	Semantic differential. Tolerance of ambiguity scale (Budner, 1962)	Yes	Youngest, those with the least supervisory experience and those with external locus of control became more self accepting and more tolerant of ambiguity
Gosenpud (1982)	Experiential organizational behavior course						
Hand, Richards and Slocum Jr (1973)	Human relations supervisory training program	Consultative vs. autocratic managerial style	Non trained supervisors. Selection random	Concern for human aspects in work environment	Perceptions of both superiors and subordinates	Yes	Both consultative and autocratic supervisors showed increased concern for human aspects.
Harrison and Lubin (1965)	Sensitivity training	Person vs. task orientation	No	Learning about self expressiveness, warmth and comfort	Trainee judgements	No	People oriented trainees were more expressive, warm and comfortable; task oriented trainees learned more.
Kelley and Easton (1981)	Personnel course	The need for achievement, dominance and self acceptance	No	Cognitive learning early and later in the course	A cognitive exam	No	Those with high need achievement, dominance and self acceptance scores performed more poorly on a cognitive exam early in the course, but performed better on a cognitive exam later in the course.
Mathis (1958)	Sensitivity training	T-group trainability index based on openness to communication regarding affection, aggression, and intra personal conflict	No	Level of sensitivity, sophistication, and productivity	Observer ratings	No	People scoring highest on this trainability index were rated higher by observers on sensitivity, sophistication, and productivity

TABLE 18-2 (continued)

Steele (1968)*	Sensitivity training	Sensing vs. intuiting personality trait	No	Values changes	Trainer ratings	No	Whether trainees were sensing or intuiting did not affect trainer ratings of value changes
<i>b. Contingent on Other Characteristics</i>							
Kelley and Easton (1981)	Personnel course	Instructor reputation	No	Cognitive learning	Graded exam	No	Cognitive learning was greater with instructor with better reputation
Zenger and Har- gis (1982)	On-the-job supervisory training	Extent of management support for training	No	Sensitivity towards subordinates	Coworkers assessment of behavior change	Yes	The higher the level of involvement from management, the greater the sensitivity of the trainees

Note *Taken from Campbell and Dunette (1968)

studies is worthy of mention. Zenger and Hargis (1982) reviewed five supervisory training programs, and trainees became more sensitive to employee needs with training. In addition, the evidence indicated that the degree of positive change was related to the extent of management support of training. The higher the level of involvement from upper management, the greater the change.

This is worthy of mention because it is consistent with other results from the organizational change literature. According to this literature (Kanter 1983), innovations are more likely to work when there is top management support for them. The Zenger and Hargis results suggest that the above holds for experiential training as well as other innovations.

Studies Focusing on Features of Experiential Learning

The interest in this section is on features of experiential learning that help make it more effective. It should be noted that in most of the studies discussed below, identifying features of experiential learning that help to make it more effective was not the explicit purpose of the study. However, these studies were conducted in such a way that implications regarding effective features are discernible. The features discussed in the section below include feedback, meaningfulness, exposure, and communication barriers.

From consideration of these studies, the feature of experiential learning that most clearly influences its effectiveness positively is feedback. In the studies in which role playing was found to be effective in changing behavior (Bolda and Lawshe, 1962; Goldstein and Sorcher, 1973), feedback was an integral part of training. Gentry and Burns (1983) also suggested that knowing outcomes facilitates learning, but warned that outcome feedback can be fallible as people focus on false positives rather than false negatives.

Another feature that appears to impact experiential learning is meaningfulness. Bolda and Lawshe (1962) concluded, that when training touched the trainee on an emotional level, it had more impact. DiVesta and Peverly (1984). in their experiment on conceptual transferability, found that learning was significantly greater when the concept being learned was meaningful. Finally, Ingersoll (1973) concluded from a review of role playing assessment studies that role playing situations that were more involving for the learner enhanced learning.

There is mixed evidence as to the influence of exposure on effectiveness. On one hand, Locke, Johnson, Kirgin-Ramp, Atwater, and Gerrard (1986) evaluated a delinquent education program which exposed trainees to the hardships of prison life. These authors found that the offense rate of juveniles with court appearance records who were trained in this way were no less likely to commit offenses than a control group trained by counseling. This suggests that exposure is not a key ingredient to behavior change.

On the other hand, in Ross, Hughes and Hill's study (1981) of in-service teachers, the training program included two major features, exposure to the actual field experience and discussion of that experience. Trainees did not actually teach, but they did significantly better than controls on an exam. There are two ways to interpret this result. One is to interpret training as exposure. Then the results indicate that exposure facilitates learning, a result inconsistent with results of Locke et al. The second is to interpret the field experience as a meaningful experience for trainees. Then the result supports the conclusion from Bolda and Lawshe's and DiVesta and Peverly's work that experientially-based learning is greater when the experience is meaningful.

The Burns, Golen, and Gentry (1983) study is also worthy of discussion. It is similar to the above studies in that it focused on elements of experiential learning. However, it is different in that it sought to find aspects of experiential learning that differentiated it from other learning methods rather than aspects that promote experiential learning effectiveness. The most relevant result involves communication barriers. The authors found experiential learning did not differ in inherent communication barriers from other involving pedagogies such as the simulation and cases. It, along with other involving pedagogies, did differ from the lecture, however. The lecture evoked concerns about instructor bias, failure to listen to students, and lack of feedback, whereas, the active pedagogies gave rise to concerns of student interpersonal and status difficulties and conflicting attitudes.

CONCLUSIONS

This review raises a number of issues and suggests a number of directions that experiential learning evaluation research should take. However, I have one general conclusion that permeates these suggested directions. The conclusion is that researchers should stay away from the kind of study where the experiential method is compared with others, usually in terms of some very general measure of cognitive learning, and almost always a course exam. The purpose of this kind of study is usually to prove the worth of experiential learning. This type of study is value laden, stimulates unnecessary controversy, and the knowledge gained from it is in terms of winners and losers and nothing else.

There are other reasons for avoiding this type of study. As Schreier (1981) noted, those who want to teach experientially will do so, and those who want to criticize the method will also do so, regardless of how lecture and experiential students score in course exams. As discussed below, how well students do on course exams is more closely related to their own motivation levels than to type of teaching methodology. In addition, studies undertaken so far show the experiential method to be equal to others in cognitive

learning. As Bowen (1987) has pointed out, the best teaching is to employ an optimal mix of several teaching strategies, and the boundaries between experiential and other types of learning are less clear than we labelers would like to believe. Finally, many studies show that how much material is learned is contingent upon student characteristics. So, the question of which method is better evokes so much complexity that determining a better method is virtually impossible. We should try to go beyond this question.

The rest of this section will be organized around four specific issues. The first deals with experiential learning and cognitive outcomes, the second deals with measuring experiential effectiveness in terms of behavioral acquisition and change, the third focuses on outcome variables, and the fourth focuses on suggestions for future research.

Experiential Learning and Cognitive Outcomes

Does experiential learning enhance cognitive learning better than other methods? At first glance the answer is clearly no. The vast majority of studies assessing the relative effectiveness of the experiential method in terms of cognitive learning have shown no differences between it and other pedagogies. Most of these studies were undertaken in university classrooms and most used the graded final exam or a general, standardized conceptual exam as the dependent variable. In all but two of 23 comparisons there was no difference between the experiential and other methods. Therefore, it should be tentatively concluded that in university classrooms the experiential method is neither better nor worse than other teaching methods for enhancing cognitive learning attainment.

However in four studies reviewed (Burns and Sherrell, 1982; DiVesta and Peverly, 1984; Ross, Hughes, and Hill, 1981; and Smith, Szasbo, and Trueblood, 1980), all with comparison's groups, effort was taken to create a test that measured the specific concepts learned in the experiential exercise or program. In three of the four studies [DiVesta and Peverly; Ross, Hughes, and Hill; and Smith, Szasbo, and Trueblood], learning was significantly greater in the experiential group than in the comparison. This suggests that when care is taken to design a test, to be specific to the goals of the learning experience, the experiential method may be more effective.

Obviously the results of three studies are not enough on which to base a conclusion. Most likely if a course exam covers general concepts, students will learn what is necessary to do well on the test regardless of the course teaching method. This is so because, to students, knowing what is on the test is more important than the teaching method of the course. Under these circumstances the experiential method will be about as effective as others, and future research comparing the experiential method under these circumstances will probably reach foregone conclusions.

What happens when the tested material closely parallels the goals of the experiential exercise or program is less clear. Too few studies have been undertaken to know if any teaching method is superior when outcomes measured are in very close accordance with the pedagogical goals, but it is possible that some *are* superior to others and more research under these circumstances will be very beneficial.

Experiential Learning and Behavioral Acquisition and Change

Most advocates of experiential learning argue that its value is in the affective and behavioral domains (Bloom et al., 1956; Krathwohl, Bloom, and Masia, 1964). And although many were methodologically flawed, the vast majority of studies assessing experiential learning techniques have found that experience based training has helped trainees acquire new skills or change their behavior in desired directions. Studies have been reviewed showing experiential training of various types to help trainees become more inter-personally sensitive and improve communication skills.

However, almost all of the studies reviewed have taken place outside of the university classroom. Of the 18 studies reviewed assessing experiential learning in terms of behavioral acquisition and change, only one (Gill, Berger, and Cogar, 1983) used college students, and those were graduate students in counseling.

Of the studies reviewed evaluating university courses utilizing contrasting teaching methods, most assessed in cognitive terms. Some assessed in general attitudinal terms as well, covering, for example, how satisfied or motivated students were in the course. Rarely, if ever, have researchers assessed entire courses in behavioral terms, and rarely, if ever, have course designers specified attitudes or personality characteristics that should likely change with successful course completion. Finally, rarely, if ever, have researchers designed studies assessing contrasting teaching pedagogies in terms of desired behavior or personality variable change. This should not be difficult and it should be done. For example, marketing courses might be designed to help students become more sensitive to consumers' needs or more persuasive, and researchers could design studies comparing experiential and other pedagogies for attaining those goals. Or, organizational behavioral courses could cover such concepts as adapting to uncertainty and interpersonal sensitivity, and researchers could design studies comparing experiential and other teaching methods in accomplishing those aims.

Outcome Variables

In five of the sensitivity training studies reviewed, evaluation measures were open-ended in that researchers merely asked learners what they gained from

their learning experience. And, in the problem section of this paper, I suggested that there were benefits to open-ended evaluations. Later in the paper, I suggested that there are advantages of carefully tying outcome measures to targeted learning goals for purposes of evaluation. Perhaps these two methods of evaluation seem contradictory. However, I believe both ways to measure outcomes are appropriate, depending on the type of learning experience assessed.

If the learning experience itself is open-ended, if that which is learned varies with the learner, and if repeated versions of the experience are variable, then merely asking participants what they have gained is appropriate. This has been a typical way to measure outcomes in a t-group (Campbell and Dunnette, 1968), and it seems to be an appropriate way to measure general experiential experiences such as a course or multifaceted training program. On the other hand, if the learning goals are clear and specific, then tying outcome measures to the learning goals is appropriate. This was done in a number of studies reviewed here. Burns and Sherrell (1982) designed experiential, discussion, case, and simulation sections to deal with marketing site selection and designed an exam to test knowledge of site selection concepts in all sections, and Ross, Hughes, and Hill (1981) designed a field experience for in-service teachers, expected them to learn certain concepts about that experience, created a control group to listen to a lecture about those same concepts, and tested both groups on concept attainment.

It should be pointed Out that at least one evaluative study used both the open-ended and the variables-tied-to-learning-goats methods to measure outcomes. Swierczek and Charmichael (1985) utilized a needs assessment technique to set ten learning targets for a supervisory training program and designed measurement indices to assess training in terms of those ten targets. They also asked each participant two open-ended questions, "What did you learn in this workshop?" and "How will you apply those skills back at work?" The authors pointed out that the open-ended questions were given to help eliminate potential response biases inherent in the specific target defined indices.

Suggested Directions for Future Research.

It is clear from this review that there is much to learn and to research about the effectiveness of the experiential pedagogy. Two directions for future research were discussed earlier: 1) tying outcome measures to learning goals and 2) evaluating experiential learning on the basis of behavioral and specified attitudinal outcomes. Researchers should pursue two other directions. First, they should attempt to assess the external validity of experiential

learning. This means assessing gains from experiential programs in the external environment, the larger university and the workplace. It should be noted that some of the behavioral acquisition studies have done this as indicated earlier, but note also that none of these are university-based. There is precedent for discussing and assessing the external validity of a university teaching methodology. Norris (1986) and Wolfe and Roberts (1986) have discussed the external validity of the computer simulation as a teaching approach, and Wolfe and Roberts (1986) have undertaken a follow up study of simulation players. In that study, these researchers assessed simulation validity by obtaining correlations between simulation performance of university students and their salary and promotion levels in the workplace five years later. In similar but not identical ways, the external validity of university-based experiential instruction could be obtained. For example, one section of a supervision course could be taught experientially, another with a different pedagogy. The effectiveness of each method could be assessed in terms of quickness of promotion of its students past the initial supervisory position after graduation.

A second future direction involves undertaking theory-based research. Through our studies, we need to learn more than just whether a given teaching method is effective. We need answers to such questions as why a given teaching method is effective and under which conditions this method is better than others. Studies assessing features of experiential learning seem particularly valuable. Such studies not only help identify what it is about experiential learning that is beneficial, but they also help us to understand aspects of the instructional process that are crucial to all kinds of learning. For example, this review has found that feedback is important to the experiential learning process. It could be hypothesized that feedback is important to learning enhancement for all pedagogies and studies testing this hypothesis could be undertaken.

A great deal of space has been devoted to the inadequacies of and the difficulties in doing experiential learning assessment research. A whole section has been devoted to inherent problems. Methodological difficulties existing in many of the studies have been made apparent, and the opening subsection of this article's conclusion criticizes a major thrust of experiential evaluation research. In addition, it should be made very clear that a major rationale for undertaking experiential evaluation studies lacks foundation. This rationale is that evaluation studies are needed to prove the value of experiential learning to a suspicious wider community. This rationale is no longer credible. The facts are that most academicians, especially those in business, education, medicine, and engineering, value applied and innovative teaching methodologies. New experiential textbooks come out continuously and in many general textbooks experiential exercises or suggestions for field learning experiences accompany

each chapter. There are training and development firms that create and utilize experiential programs, and many private sector training programs contain a large experiential component.

In addition to the above, there are many reasons for not even bothering to undertake experiential evaluation research. Bunker and Cohen (1978) note that evaluation is expensive, time consuming, risky, and very difficult to do right. In addition, Schreier (1981) offers one of the most powerful reasons for not doing experiential evaluation, that is that practitioners do not pay attention to it.

...we are all capable of intuitively evaluating what we do. This capability ...is something most professional educators develop after years and years of course work, research attempts and practical experience. We seem to develop an uncanny ability to sense, if we care to, the success of our lectures, examinations, experiential exercises, simulations and cases.

Perhaps this is unfortunate, but most of us trust this intuitive evaluative sense to help us decide what to teach more than the results of other people's evaluative studies. Most teachers will teach experientially if they want to, teach some other way if that is their desire, and use a mixture of methodologies that makes sense to them. So I am not trying to be glib when I ask, "Why even try to evaluate experiential learning?" It is difficult to do right. We no longer have to prove the value of experiential techniques by doing evaluative research. At least some teachers will do what they want regardless of research results, and most of the research done so far is inconclusive anyway.

The question deserves a serious answer, and the answer that follows is serious. There is so much we do not know about the teaching-learning process that well-designed research on its Outcome cannot help but be valuable. That goes for all teaching-learning processes and that goes for the entire teaching-learning process from goal-setting to evaluation.

Most learning experiences are designed; either a program or exercise is planned or lectures are written before they are delivered. These plans should involve the setting of learning goals, and it is important for the manager of the learning experience to set attainable learning goals and to design learning experiences that will likely help learners attain those goals. In addition, Adelman (1986) suggests a number of questions that designers should think through. One such question is whether the underlying learning experience rationale is coherent, logical, and well grounded theoretically and empirically. If it is not, there may be little justification for proceeding with the program.

Another involves the consideration of antecedent conditions. That is, does the intended learning experience design account for individual and subgroup differences relevant to intended outcomes? If possible, learning experiences

should be tailored to individual needs. Also, issues regarding dependent variables should be faced. It is important to design measurement indices carefully, but researchers should also ask whether potent unintended processes transpire. If so, open-ended measures should also be used.

Research design issues also should be faced. Many of these are outlined by Campbell and Stanley (1963). In addition Miles (1965) lists the main research design strategies he used in evaluating t-groups. These included careful criterion measurement and refinement, the use of role-homogeneous populations, the location of plausible control groups, the assessment of possible test-treatment interaction, the predictive analysis of components thought to cause change on criterion measures, and the use of large numbers of measures.

The major ingredient is care. Evaluative research can help us gain a great deal of knowledge and understanding about the teaching-learning process. But, in order for all of us to gain that knowledge, researchers and teachers need to take the time and effort to design a learning experience so that learners learn from it and so that what they learn is comprehensible. They also need to take the time and effort to design the research evaluating the learning experience so that scholars and practitioners can draw valid conclusions about the effectiveness of the teaching learning process being studied.