THE EFFECTIVENESS OF EXPERIENTIAL METHODS IN
TRAINING AND EDUCATION: A REVIEW[1]

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A large number of experiential training and educational methods exist, such as business games, role playing exercises, T-groups, in-basket exercises, committee participation, field trips, forums, group discussions, panel meetings, seminars, etc. [3, 18], and these methods are in widespread use in both industry and academia [7, 30, 32]. Although there may have been a time when demonstration of effectiveness was not an essential precondition to the use of these methods, more and more both universities and business firms are being called upon to provide evidence of their effectiveness, and this trend will probably intensify in the future. Although many articles and books have been published in this area, the evaluative research relevant to these methods is widely dispersed and not easily obtainable. Thus, the current synthesis was undertaken to summarize existing research on three commonly- used experiential methods: business games, role playing exercises, and T-groups. The evidence reviewed will be strictly empirical, rather than impressionistic or anecdotal (since such material does not provide an adequate basis for evaluating experiential methods), and heavy reliance will be placed on earlier review articles. In addition, some of the distinguishing characteristics and purposes of the three methods will be discussed, to clarify their similarities and differences.

BUSINESS GAMES

Business games are often described as "dynamic, on-going cases." In business games, the players manage a hypothetical organization under a set of rules specified in a game manual. They make decisions subject to these rules, and receive feedback concerning the results of their decisions. Decision results are then used as the basis for the next round of the game, and more decisions are made. Thus, the results are cumulative, much the same as in the real world, and the method, by its use of rapid feedback does attempt to motivate and involve participants. Games may be computerized or scored manually, but the essential characteristics which distinguish them remain the same. Several hundred different games are currently in existence, from general

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"top management" games to those concerned with only a particular business function such as production or inventory management [9, 22].

Although as many as fifty different claims have been made concerning the purpose of business games, a recent review of the games literature discovered that the bulk of these claims are not widely supported by games practitioners [251. However, there was substantial agreement with respect to seven areas, which are commonly seen as the domain in which business games are effective. Briefly, these seven areas are that games effectively teach or foster the development of:

1. Decision-making skills
2. Planning and forecasting skills
3. Recognition of the interrelations and interdependencies in business firms
4. High participant interest and motivation
5. Knowledge of facts and use of specific techniques
6. Interpersonal skills
7. Organizing ability [251.

Thus, games are seen as being effective by many university and industrial practitioners in a number of important areas, and the level of support for these beliefs is quite substantial [7, 22, 25, 30, 32].

Recent reviews of the literature, organized around the above claim areas have yielded results which do not support business games as being effective in any of these areas [23, 24]. Thus, for example, Schriesheim and Schriesheim [241, after reviewing over four hundred articles and books on the effectiveness of business gaming, concluded that "...a divergence does exist among the available research evidence, designer claims, and practitioner opinion concerning the effectiveness of business games as training devices .... no empirical support exists for any of the game claims" [24, pp. 6-7]. More recent studies not included in the Schriesheim and Schriesheim review [e.g., 1, 14, 34] have tended to support their conclusion that game effectiveness has not been demonstrated in any area where games have been claimed as being effective training and educational devices. Table 1 summarizes the research studies discussed in Schriesheim and Schriesheim's [24] review, and clearly shows the lack of empirical support for the claimed areas of game effectiveness.

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                    TABLE 1
          SUMMARY OF STUDIES ON GAME EFFECTIVENESS

Effectiveness Area    No. Positive Studies   No. Negative Studies
1. Decision-making           2                      3
2. Planning skills           1                      2
3. Interrelationships        3                      4
4. Interest-Motivation       4                      6
5. Facts knowledge           2                     10
6. Interpersonal skills      1                      3
7. Organizing ability        1                      3
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ROLE PLAYING

A role playing exercise may be defined as a dymanic process "that involves participants assuming specified roles and acting out significant events" [28,p. 1011. Solem [28] outlines some defining goals and characteristics of role playing as follows:

1. Places problems in a life-like setting
2. Involves problems with ongoing processes
3. Typically deals with problems involving the participants themselves
4. Deals with emotional and attitudinal antecedents of behavior in an experiential frame of reference
5. Emphasizes the importance of feelings as sources of behavior
6. Deals with participants who are placed psychologically "inside" the problem situation
7. Makes for emotional involvement
8. Provides practice in interpersonal skills
9. Provides for testing ideas and hypotheses about human behavior
10. Trains in emotional control
11. Provides for the execution of the action or solution.
12. Involves continuous feedback [pp. 34-35].

The role playing technique is discussed in almost every industrial training text. Pareek [21] devotes a whole chapter to it, as does Shaw [26]. However, in both texts none of the references include a single effectiveness study. The Shaw work, being part of a training handbook, contains no references written later than 1951, an amazing phenomenon for such a source.

One of the earliest studies on role playing is reported by Lawshe, Bolda, and Brune [16]. They used a "skit completion" method of role playing to evaluate the effects of single and repeated role plays. Evaluation criteria consisted of scaled responses to a standard human relations training case on two dimensions, sensitivity and employee-orientation. The criterion responses were obtained before and after role playing in four groups and after training in a fifth group. While the first three groups role played only once, the last two used repeated role plays over the 5 week period.

Examination of the results of the single treatment indicated that only in the foreman's role in one of the experimental groups was there a significant positive change on the sensitivity dimension. In the repeated exposure groups, the overall pre- and posttraining sensitivity scores in group 4 were significantly positive. However, neither of the repeated exposures groups indicated a favorable change on the employee orientation dimension. In their conclusion the authors express doubt concerning the impact of role playing. The role play itself, and repeated exposures to it, contributed little to criterion response improvements. They hypothesize that the impact may be a function of the type of case used and the type of discussions which are held

after the role playing.

The impact of role playing on attitude change was investigated by Janis and King [13] and King and Janis [15]. Using experimental and control groups they found that the expressed opinion of role players shifted in the direction of the role more than the controls. The subjects expressed more confidence in their opinions, and tended to defend their positions by improvising viewpoints that eventually contributed to a rationalization process and acceptance of their opinions. Their main findings supported the hypothesis that overt verbalization induced by role playing tends to augment the effectiveness of persuasive communications.

Mann [17], in a review of experimental evaluations of role playing, points out the scarcity of such studies. He reviews role playing as an assessment procedure and presents evidence which indicates that valid predictions of interpersonal behavior can be made from them. In discussing role playing as a method of producing personality changes Mann points out that there is as yet little supportive evidence. The evidence presented includes the Janis and King study [13] and two unpublished doctoral dissertations. It is no surprise, then, that Mann describes these results as "sketchy and essentially suggestive in nature" [p. 233].

Janis and Mann [12] investigated the effectiveness of "emotional" role playing in modifying smoking habits and attitudes by asking women to play a lung cancer patient who receives bad news from a physician. The role playing group showed significantly greater changes in attitudes than the control group (who received information by listening to a tape recording of a role playing session). Self-reports of the participants concerning smoking habits two weeks later showed a decreased, but insignificant change.

In a related study by Streltzer and Koch [29], participants played the role of a lung cancer patient with experimenters posing either as high or low status doctors. Subjects with the high status experimenter showed significantly greater attitudinal change than those with the lesser status experimenter. However, a significant difference was not obtained concerning change in smoking habits.

Ingersoll [11] reviewed the existing literature and hypothesized that role playing changes more behaviors and attitudes than non-role playing situations and that more involving role playing situations are more effective. Her findings indicate that role playing does not extend much beyond the boundaries of the role playing situation. Although awareness of the role playing topic is increased, the role play itself does not provide motivation. Also, she raises an important question concerning reported attitude changes resulting from role playing. She notes that an alternate explanation of such results arises from the ability of role playing to heighten the social desirability of certain responses, making these responses more likely on questionnaire self-reports without a corresponding change in the participants' true feelings.

In a complementary study, Elms and Janis [8] investigated the acceptance of counter-

norm attitudes as a function of the type of role playing and the monetary incentive associated with role playing performance. Students were asked to invent arguments in favor of a proposal to allow American students to complete their education in the U.S.S.R. At the time of the study there was considerable tension between these countries, supposedly making this proposal of a counter-norm nature. Using analysis of variance, a significant positive interaction was found between degree of acceptance of the counter-norm, overt role playing, and rewards. Attitude change was most effective when it was associated with high monetary reward and role play that involved verbal interaction with other members of the experimental group.

To summarize with respect to role playing, it seems that empirical evidence, accumulated over the past 15 years, substantiates only a small part of the Solem [28] description of role playing. Role playing seems to be effective in inducing relatively short lived and limited attitude change. Its effectiveness in changing behavior and inducing motivation is doubtful and remains to be demonstrated. However, the importance of the technique, when viewed from the perspective of the Elms and Janis study [8] may lie in the so-called "unfreezing" stage of the training process. By inducing attitudinal changes and then reinforcing them by appropriate rewards the effectiveness and usefulness of the technique may be increased.

T-GROUPS

T-group, sensitivity, or laboratory training attempts to change individual behavior by placing participants in an unstructured, ambiguous situation and having them resolve the conflicts which emerge (as a result of the ambiguity) through interpersonal interactions. In the process of resolving these conflicts, group members examine their individual and collective interpersonal relations and, hopefully, develop an understanding of the dynamics of group interaction and functioning. The basic goals of T-group training can be summarized as [5]:

1. To increase self-insight concerning why one acts in certain ways in interpersonal situations, and to develop and understanding of how others see these behaviors
2. To increase individual sensitivity to the behaviors of others and their underlying emotional bases
3. To increase awareness of the types of interactions which enhance or reduce the effectiveness of groups
4. To increase diagnostic skills so that problem areas in group functioning may be recognized and treated
5. To teach individuals to analyze their behaviors so that they may improve their interactions with others.

The effectiveness of T-group training is still open to question. A review of the literature by House [10] found that while T-group training can result in better listening, more supportive behavior, more considerate and sensitive managers, and lowered needs for dependence, there is

evidence that these outcomes do not always lead to more effective organizational performance. House found that, generally, T-group experience resulted in increased employee-oriented behavior but found no studies suggesting that T-groups increase trainee use of initiating structure. Thus a potential source of organizational role conflict is created and T-group outcomes should be examined to see if they are congruent with organizational performance criteria.

Campbell and Dunnette [5], while agreeing with House that T-group training does induce behavioral change in organizational settings, raise important methodological issues concerning the nature of these changes. They note that organizational change has been measured in terms of perceived change and has usually not been related to observed changes in job effectiveness. The one study they cite that directly addresses this problem [31] found that laboratory training produced both more positive and negative performance changes than control methods. In addition, they also note that most studies have been concerned with changes in individual attitudes and behavior and that "utility for the organization is not necessarily the same as utility for the individual" [p. 101]. Therefore, they conclude that the effectiveness of T-group training for organizational improvement has been neither confirmed nor disconfirmed.

Smith [27], in discussing the T-group evaluation studies reviewed by Campbell and Dunnette and Cooper and Maughan [6], speaks of the advantages and problems of using verified change measures. He notes that Bunker [4] found verified change (defined as two or more observers describing the same type of behavioral change) in 66% of 229 trainees versus 33% for 112 control subjects with no training, and that other verified change studies by Miles [19], Moscow [20], and Valiquet [33] have all yielded comparable results. Smith cites the balance of the research findings as encouraging, but notes the dual necessity of designing more precise measures and applying both pretest and posttest measures. He also points out that verified change studies are vulnerable to several criticisms, including knowledge of who was trained, making their findings suspect.

Anderson and Slocum [2] found no new major studies in their review of the literature, and also no operational theory concerning personality-T-group participation interaction. They note that T-group results are not comparable due to the use of multiple instruments and measuring procedures, making it very difficult to draw accurate conclusions concerning effectiveness. Although they draw other conclusions, their most important point is that individuals who would be expected to benefit most from a T-group experience are open, non-defensive individuals who are able to communicate well. This finding accentuates one of the basic problems of the T-group method as noted by Campbell and Dunnette [5], mainly that it appears that some of the interpersonal skills which are most important for the accomplishment of the T-group's objectives are also the very skills constituting the major learning goals of the method. Thus, much more research is needed in this area before it can be concluded that T-group training is effective, although the findings to-date may be viewed as encouraging.

SUMMARY AND CONCLUSIONS

The empirical evidence reviewed in the preceding sections indicates that business games, role playing exercises, and T- groups have not been demonstrated to be either effective or ineffective as training and educational devices and that much more research needs to be performed on each of these experiential methods. In the future it would seem that more attention needs to be paid to programmatic research efforts which involve at least four steps: (1) determination of behavioral objectives for each of these methods, (2) determination of specific and valid evaluative criteria, (3) development of maximally effective experiential methods, and (4) comparison and testing of a set of maximally effective experiential methods against alternative training and educational devices. Then, and only then, will the question of experiential training method effectiveness be adequately and fully resolved.

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