

Evaluations of simulation effects in management training

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INTRODUCTION

The management laboratory, in which the training and evaluation reported in this paper takes place, is designed to accommodate persons in sets of between five and ten. Persons primarily using the laboratory are undergraduate and graduate students, and prospective or practicing managers.

The laboratory encourages utilization of many techniques, including both manual and computer-based simulations, as means for improving trainees' task accomplishment and team development. Other techniques include lectures, films, case analyses, and discussions. Simulations include manual exercises designed specifically for the management laboratory, computer-based games, improvisations employing videotape for immediate feedback, and both trainee-developed and commercial exercises and games.

METHOD AND RESULTS

During the conduct of a commercial game being played by two sets of trainees, we observed categorically opposite effects on each set. To test our hunch, we hastily designed, dittoed, and administered an assessment form which asked the trainees how well their teams had developed prior to the simulation and after it; why they had selected that game; and to what they attributed the game's effects. Table I reports the effects as perceived by these two sets of trainees.

As we had observed, trainees actually experienced almost polar differences as a result of playing this commercial game, and the effects were primarily a function of their team's pre-simulation cohesiveness. Some of the comments made by trainees in the developed team were: "It produced uneasy feelings; I felt uncertain and vindictive; nobody followed the rules; there was deceit and confusion; I felt let down afterwards; because of the

double-crossing, I couldn't even trust my partner." Trainees in the underdeveloped team wrote: "It opened my mind more to others and made me forget my inhibitions; I really got involved for the first time; the decision-making and bargaining helped us; it brought out a desire to compete and win; people can really manipulate when it's beneficial." Interestingly enough, members of the more developed team were so disturbed by the game's effects that they immediately replayed it, assuming different roles than before, and attempted to regain their prior degree of cohesion. Further investigations of this kind revealed a variety of reasons for selecting a simulation: "It was a challenge; we heard it was fun; we wanted something that would involve everyone; we thought that working with different partners would help; it looked like it would help us make advances on our task." Some of these reasons expressed expectations about the task, some about oneself, and some about the team.

After a series of iterations, the Event Assessment, shown as Table II, was generated for use in evaluating the effects of any simulation by persons engaged in management training. Our justification for using this generalized approach is that we experienced disparate effects from the collecting of such assessments, as well as from feeding back the results of assessments to trainees. Because training events occur so fast, often without their being planned, the Event Assessment uses past, present, and future tenses in many questions.

Scoring, tabulating, analyzing, and presenting the results of an event assessment can be accomplished manually or by a computer program. We have not as yet explored the effects of immediate versus delayed feedback of results, nor have we always postponed trainees' choice of a simulation until its anticipated effects have been fully explored. Data collection has been both facilitated and standardized by means of this form.

Results from the Event Assessment Form may be displayed in various ways in order to facilitate manage-

TABLE I—Perceived Effects of a Simulation on Team Development

TEAM DEVELOPMENT PRE-SIMULATION	POST-SIMULATION		
	LITTLE	SOME	GREAT
GREAT	DDDD	D	UU
SOME		U	DUU
LITTLE		UUU	UU

D: trainee in developed team

U: trainee in undeveloped team

ment training objectives. Table III, for instance, indicates how one set of trainees perceived a simulation's effects on the accomplishment of the task assigned to it. Table IV displays how this same set of trainees experienced that simulation's effects on the development of

TABLE II—Event Assessment Form

Assessor: _____ Date: _____ Time: _____

Name of Event: _____

PRE-EVENT QUESTIONS

What is/was your task? To _____

How well are/were you accomplishing your task?

VERY POORLY	POORLY	SO-SO	WELL	VERY WELL
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How well are/were you developing as a team?

VERY WELL	WELL	SO-SO	POORLY	VERY POORLY
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ABOUT-THE-EVENT: How much do/did you expect the event to: Help you make progress on your task?

VERY MUCH	MUCH	SOME	LITTLE	VERY LITTLE
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Help you all develop as a team?

VERY LITTLE	LITTLE	SOME	MUCH	VERY MUCH
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POST-EVENT: In what way and how much will/did the event: Affect your progress on your task?

VERY POSITIVELY	POSITIVELY	SO-SO	NEGATIVELY	VERY NEGATIVELY
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Why? Because _____

Affect your development as a team?

VERY NEGATIVELY	NEGATIVELY	SO-SO	POSITIVELY	VERY POSITIVELY
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Why? Because _____

TABLE III—Perceived Effects on Task Accomplishment

TASK ACCOMPLISHMENT PRE-SIMULATION	POST-SIMULATION				
	VERY LITTLE	LITTLE	SOME	GREAT	VERY GREAT
VERY GREAT		B			
GREAT	A	CE		K	L
SOME					
LITTLE				J	M
VERY LITTLE		DF		GH	

the team itself. Table V combines task and team information, and serves also as an indirect sociometric device. The power of these combinations of data lies in the trainer's ability to focus trainees' attention on the various tradeoffs between task accomplishment and team development which a given simulation or other event stimulates.

As Table III shows, four of the six people who felt great or very great pre-simulation task accomplishment, also felt that the simulation had little or very little ef-

TABLE IV—Perceived Effects on Team Development

TEAM DEVELOPMENT PRE-SIMULATION	POST-SIMULATION				
	VERY LITTLE	LITTLE	SOME	GREAT	VERY GREAT
VERY GREAT	A				
GREAT		BC		HJK	LM
SOME					
LITTLE	D	E			
VERY LITTLE		F			G

TABLE V—Perceived Effects on Task Accomplishment and Team Development

TASK ACCOM- PLISH- MENT	TEAM DEVELOPMENT		
	LOSS (-4 to -2)	SAME (-1 to +1)	GAIN (+2 to +4)
GAIN (+2 to +4)		HJM	G
SAME (-1 to +1)		DFKL	
LOSS (-2 to -4)	ABC	E	

fect, (ABCE). On the other hand, four of the six who experienced little or very little pre-simulation task accomplishment felt that the simulation had great or very great effect (GHJM).

Table IV indicates that five of the eight persons who thought their pre-simulation team development was great or very great also considered the simulation's effect to be great or very great (HJKLM). Only one of the four persons who experienced little or very little

pre-simulation team development, however, perceived the simulation as having a great or very great effect (G).

The data in Table V show how trainees experienced effects of gain and loss in both task accomplishment and team development as a result of the simulation. For the most part, trainees associate task and team experiences, as indicated by the linear relationship in Table V. These data, however, also permit a sociometric analysis of the participants. By their similar perceptions, trainees A, B, and C constitute a cluster which experienced a double loss in both task accomplishment and team development, while member G stands alone, having experienced a double gain. Discussion about these data centered on whether both effects might not be an example of regressing toward the mean. Four members experienced no change as the result of the simulation, (DFKL), while members H, J, and M perceived a gain in task accomplishment only, and one member, E, a loss in task accomplishment.

The display of this information, fed back to management trainees, gives everyone a better picture of the array of effects of any event, including a simulation, on both the task and the team. Regardless of the simulation's other objectives, these results can be useful for purposes of management development.

