

# Management Training: Justify Costs or Say Goodbye

The same money shortage that's driving the need to bolster management effectiveness is also putting management training in a precarious position. More than ever, the benefits of training need to justify its costs.

By THOMAS F. URBAN, GERALD R. FERRIS, DANIEL F. CROWE and ROBERT L. MILLER

During the 1970s, management training delivered developmental skills to a rapidly growing managerial cadre. The attitude was that if training is good, more is better. During the 1980s, however, the survival of the training and development function depends on the answer to the question, "How do we *know* training is good?"

Rigorous, systematic efforts to demonstrate effectiveness generally have been neglected. A recent study of 20 corpora-

tion took place, there was no consensus on the best type of evaluation criteria. More top management is agreeing with Odiorne's contention that if management development programs do not show quantifiable economic gains, the programs should be discontinued.

Recent discussions of management development recommend a multi-method approach to assessing its effectiveness. Campbell recommends that subjective evaluations by participants (internal

vestment and conducted a cost/benefit analysis. While some evaluation approaches build on existing notions, comprehensive multi-evaluation criteria go beyond these in scope, permitting the convergence of both internal and external criteria to be examined.

## The supervisory training program

The supervisory training program (STP) was designed for employees newly promoted into first-level supervisory positions and supervisors who had not attended a supervisory training program in the last five years. Program participants were nominated by their managers for a specific program based on the manager's assessment and discussions of the supervisor's training needs.

The content of the programs included communication, group dynamics, problem solving, decision making and other supervisory skills. Conducted six to ten times per year, each program contained the same generic content and was conducted by three in-house members of the training staff at an off-site location. Participants were selected from diverse functional areas and geographic locations.

This training evaluation effort focuses on STP programs offered between September 1979 and July 1981. The average age of the 533 participants was 36 years, approximately 90 percent earned

## A central question in measuring training effectiveness is whether participants remain with the organization providing the training

tions regarded as leaders in corporate training concluded that, "To the degree that evaluation efforts have been undertaken, they seem to have focused on technical training. . . ." Even when evalua-

criteria) be combined with measures assessing behavioral change on the job (external criteria) in order to evaluate fully the effectiveness of management development programs.<sup>2</sup>

Our research outlines a multi-criterion approach to evaluating a large-scale supervisory training program in a major U.S. oil company. In addition to the internal criteria of participants' reactions to the program, longitudinal measures were taken in regard to subsequent attrition and career progressions of participants or external criteria. We also developed measures of participants' organizational in-

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between \$25,000 and \$63,000, and approximately 22 percent were female and minority group members. The majority of participants came from Texas, Alaska and Louisiana.

## Conceptual model

An understanding and cost justification of the STP effectiveness was developed through use of multiple methods and criteria. Evaluation criteria were developed from a conceptual model outlining the multi-criterion approach to evaluation. The STP project was evaluated relative to participant reactions concerning content and context as well as promotions, grade increases and attrition (performance effects). At the end of each program, participants evaluated their interest in the program, perceived relevance of the program content, the trainers and the overall course.

Participant interest in the course material was determined to be a necessary, but not sufficient condition for implementation on the job. For the 15 programs, overall interest received an average of 5.04 on a 6-point Likert scale, and perceived applicability of the course material an average of 5.02 on a similar scale. The overall course rating average was 3.46 on a 4-point scale with the trainers' ratings averaging 3.63. Participant reactions suggested that the STP rated high in terms of interest, perceived applicability, course and trainers. Participants' narrative comments, which were content analyzed, were also favorable.

While participant reactions are useful, additional criteria were used to determine program effectiveness and to provide a basis for comparison across methods.

## Attrition

Training programs may not change observable behavior on the job, but they may have value in reducing attrition. Perhaps the most important effect of a development activity is the positive feelings resulting from participants' perceptions of corporate interest in their personal and career development. Participants selected for organizational rewards, such as developmental experiences, may reciprocate through increased loyalty, and commitment, and longer tenure with an organization. Not only is training costly, but so is turnover. Yeager notes that replacement costs for managers is equal approximately to their annual salary.<sup>3</sup> Therefore, a central question in measuring training effectiveness is whether the

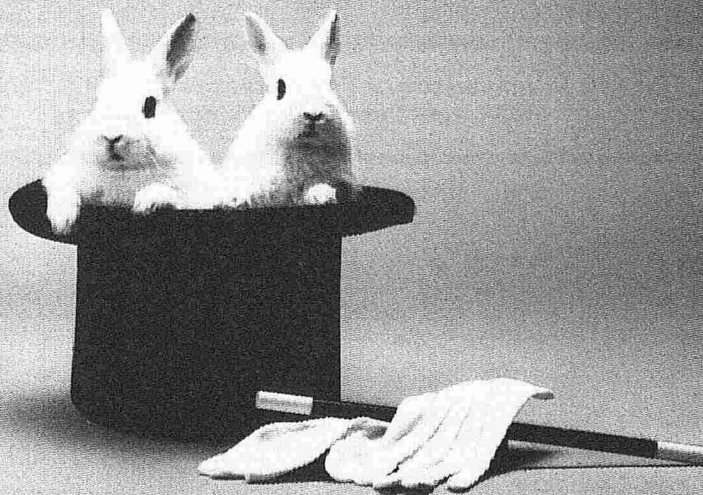
participants remain with the organization providing the training.

During 1980-1981, the attrition of experienced personnel was of vital importance to the energy industry. Smaller independent oil firms were raiding the major firms to secure experienced engineers, geologists, geophysicists, landmen and managers. Retaining these professionals was of paramount importance for the exploration and production of energy

resources by the major oil companies. Of the 533 supervisors participating in the 15 STP programs between 1979 and 1981, 20 subsequently left the organization. This is an annualized average attrition rate of 2.2 percent compared to an overall 6.4 percent for all employees in this category.

Figure 1 provides a more specific analysis of the turnover rate among program participants, showing the annual average attrition rates for critical-skills

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**Figure 1—Comparison of Annualized Average Attrition Rate for Critical-Skills Personnel**

Skill Category	STP Participants	Overall	Z
Reservoir engineers	2.6%	8.1%	3.44**
Drilling engineers	3.2%	8.5%	1.71 <sup>a</sup>
Production engineers	0.0%	5.1%	2.55*
Geologists	12.8%	11.8%	.38
Geophysicists	2.9%	6.5%	2.02*
Landmen	0.0%	13.9%	4.63***

<sup>a</sup>While this value did not reach statistical significance at conventional levels, it was marginally significant ( $p < .08$ ).

\* $p < .05$   
 \*\* $p < .01$   
 \*\*\* $p < .001$

**Figure 2—Comparison of Pay Increases and Title Changes for STP Participants and Nonparticipants**

	Participants (N = 105)	Nonparticipants (N = 105)	z <sup>a</sup>
Percentage receiving at least one pay grade increase	70.1%	49.5%	4.39**
Percentage receiving position title changes	66.0%	37.1%	6.16**
Total pay grade increases	104 (ratio = .99)	50 (ratio = .48)	14.57**

<sup>a</sup>This z-test examines the significance of the difference between two proportions.  
 \*\* $p < .001$

**Figure 3—STP Program Cost Calculation (July 1981 Session)**

Participant salaries (1 week at average salary):	\$21,500
Trainers salaries (3 trainers for 1 week at average salary)	2,200
Transportation, lodging and meals (participants and trainers):	36,000
Program expenses (materials, conference rooms, etc.):	5,000
Approximate total cost:	\$64,700

**Figure 4—Comparison of Total Resources Under Participants' Control With Total STP Expenses**

Resource	Amount
Direct labor	\$ 47,737,800
Overhead expenses	254,123,400
Company equipment	806,902,000
Contract allocations	80,849,000
Total resources	\$1,189,612,200
Total cost of STP (9/79-10/81)	\$1,200,000

employees in the STP program compared with the overall turnover rates for specific categories of professionals.

The attrition rate for all critical-skill categories, except geologists, was significantly lower for STP participants. The low or nonexistent availability of experienced critical-skills employees magnified the significance of the low attrition rate.

### Career progression

Enhancing performance on the job is a central focus of any developmental activity. Since observing performance changes was not possible, the outcomes of the organizations reward process served as a surrogate measure. Participants' grade increases and title changes gauged organizational rewards. A longitudinal analysis determined organizational reward and career progression of participants in the three programs offered in 1979. Figure 2 shows the comparison of pre- and post-positional and grade data for the 1979 participants and for employees who did not participate in STP.

The analysis in Figure 2 indicates that STP participants received more grade increases and title changes than those in the non-participant sample. The 105 participants received a total of 104 grade increases—more than twice as many as the nonparticipants. Statistically significant differences existed between participants and nonparticipants on all measures.

### Cost/benefit analysis

A systematic and informed evaluation effort should provide an indication of program investment or costs to use a benchmark against which to evaluate benefits. In this study, the costs of a single program appear in Figure 3. A single STP program costs approximately \$65,000, or nearly 4.0 percent of the participants' annual average salary. If training and development efforts are viewed as investments in human resources, then a long-range investment perspective seems desirable. Comparing the \$65,000 program cost with the total tenure of the STP program participants, the investment per year was \$218.86. If the cost of the program was amortized over the projected organizational tenure of the participants, the amortization per year would be \$77.20. This expense is minimal relative to projected returns from a supervisor's career.

Another analysis, conducted on Oc-

tober 1981 participants, is analogous to a break-even calculation for cost/benefit justification. Information on the resources that they had under their control was collected from participants. Figure 4 shows a comparison between these resources and the total amount expended for the 15 programs conducted between September 1979 and October 1981. The total expenses for STP programs would be covered if participants in one program subsequently increased their resource utilization (e.g., through better management skills) by only 0.1 percent.

In addition, if the supervisors could get their 253 direct reports to increase resources an average of \$256.92 per direct report, the program expense would be covered.

### Summary and conclusions

This study reports a program evaluation effort of a large-scale management training and development program in a major oil company. The evaluation approach

employs multiple criteria, rather than relying on a single dimension which typically is of questionable validity. Using several different methods allows the examination of convergence in the results from the different criteria, thus permitting more confident conclusions concerning the program's effectiveness. In our study, positive participant reactions, post-program promotion and pay grade increases, reduced turnover rates and effective cost measures converged in supporting the effectiveness of the STP program.

In the current uncertain economic climate, fewer resources will be allocated to support training programs without evaluation. Human resource professionals contend that development is an important organizational activity, and managers and other professional employees view development as important to their careers. However, the training and development function must be able to justify, with sound evidence, that programs are actually effective. Multi-evaluation methods that provide accurate

measures of program effectiveness assist in the cost justification of training efforts. As training professionals, we are challenged to evaluate corporate development activities before evaluation is forced upon us.

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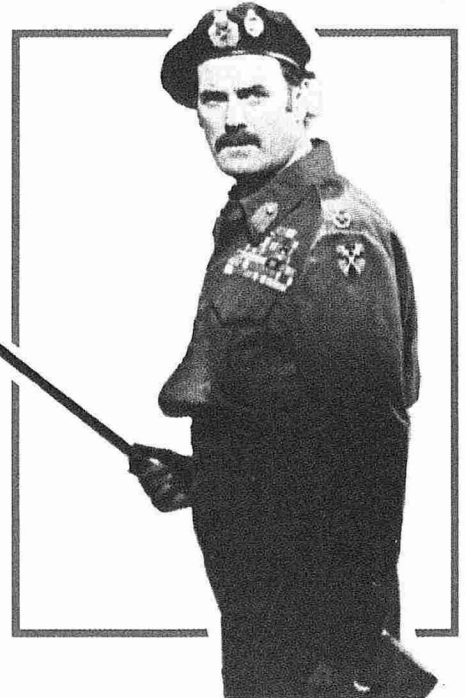
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