

Summary Report of Evaluation Survey

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Before examining the general findings on measuring the results of training, let us consider briefly an example of what actually happened in one company in regard to training and its evaluation.

The Company: A long established, large eastern producer of basic industrial goods, employing about 5000 persons. Poor's rating A-A, expected profit for 1947 under 1946 but still substantial. Company cited by management service as having excellent management conference and communication system.

Developments:

August, 1947: The training director replied to the evaluation survey questionnaire that the company was carrying on an extensive training program—job skills, safety, human relations, cost control, etc., among all levels of employees up to but not including top management. Also, it was stated that a good deal of work on evaluation was being carried on, but that no examples of this evaluation were available. Under remarks was the statement: "Willingness of the line organization to absorb training expense" (was an important measure of evaluation).

September, 1947: In reply to the follow-up, the training director states, ". . . we have not as yet evaluated any training programs. We are filing your questionnaire until such time as we do start to evaluate . . ."

November, 1947: In reply to the second follow-up, this letter was received: "In answer to your letter I am sorry to state that Mr. _____ (training director) is no longer with the company. Due to the curtailment of expenses, the training department was entirely eliminated from the Company. Since there is no one here to give you the information you desire, I am returning your check list with this letter. Very truly yours, _____ Co., _____, former secretary to training director."

While it is not expected that the above example will be widely repeated, it does point up factors which cannot safely be neglected.

The training of employees by industry has grown three-fold since 1939. It is an important part of business operations, especially in relation to productive effectiveness. However, appraisal of the results of training has been neglected for the most part, on the presumption that training results were intangible and could not be accurately measured. One result is that training activities are judged subjectively, and training budgets frequently depend more upon the general financial weather than upon the contribution training makes to productive effectiveness.

Our investigation shows that training men are much interested in the problem of evaluation. Many of them have made rewarding attempts to evaluate their own programs, as shown by the numerous case studies so generously supplied for this investigation. These

cover a wide variety of types of training and evaluation, one firm using the very modern technique of statistical quality control, another having analyzed over 30,000 answers to questions on its management conference program.

It is not possible to give the gist of evaluation in a nutshell, but we have tried. After some relatively unsuccessful attempts to explain evaluation and to get training men to tell about their experiences, a successful combination one-page procedure manual and reporting form was developed—"Measuring Training Results", shown as Exhibit 1.

In order fully to appreciate the nature of the evaluation process, the reader may wish to review the basic article concerning this

1. E. C. Keachie, "How Effective is Your Training Program", *Journal of Industrial Training*, Sept.-Oct., 1947.

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survey.¹ In addition to sample results, this article includes the extended list of indicators of the value of training used in the survey questionnaire. It also includes a detailed, illustrated, step-by-step procedure to follow in making the evaluation. A later progress report² contained a statistical summary of training and evaluation practices.

Two sample evaluations from the field are given here; one shows the results of training scale operators in weighing techniques, while the other pins down some of the results of supervisory training, so often claimed to be intangible. Both are presented in the seven point order of the check-list, "Measuring Training Results".

Case A—Weighing Techniques

1. Type—"Instruction for new employees in weighing techniques".

2. Objectives—"To reduce learning period and attain maximum production sooner".

3. Conditions before training—"By placing large numbers of new employees on production lines, many delays resulted: 1) Forelady spent too much time instructing, 2) experienced operators were held back, 3) Trainee's learning period seemed unduly long".

4. Records used to check training progress—"Daily production records of new employees were compared with those of the experienced operators during the latter's learning period".

5. Conditions after training—"After one week of instruction, new employees were able to enter production lines with a good basic knowledge. They were also well along on the road to maximum production".

6. Outside factors—"More thought was given to the selection of the personnel in the 'trained' groups".

7. Net tangible and intangible results fairly credited to training—"Number two above was definitely obtained. Better job satisfaction was noted on the part of the new worker".

In addition to the above data, the company furnished specific figures showing reduction in learning time, and stated that morale was improved. In reply to our question on difficulties encountered in evaluation, the training director said, "We had very little difficulty . . . Adequate records for comparison purposes were available, departmental cooperation was high, and improvements were immediately noticeable."

Case B—Training Supervisors in Union Contract Procedures.

This case is reproduced as Exhibit 2. In reply to our question on difficulties in evaluation the training supervisor stated, "There were no difficulties in evaluation because everyone wanted to know the results. Training is used to meet needs which are obvious to the line organization; therefore it is accepted and evaluation taken as a matter of mutual interest from the start."

In presenting this brief illustration of two cases selected from some thirty-two complete studies included in the survey, the most pertinent single bit of advice received from any of the cooperating companies bears quotation:

1. Keep original objectives concrete and specific.
2. Judge training success on basis of those objectives achieved.
3. Training departments are staff service departments and should be hesitant in claiming credit actually due to someone else.
4. The multitude of uncontrollable factors make any attempt at statistical evaluation very hazardous. (But this company is making a most extensive and creditable attempt to check on the results of supervisory training, through the use of tests and rating scales of on-the-job achievement.)

To illustrate specific approaches to evaluation, comments are made on handling four of the methods in vogue among industrial trainers.

2. "Evaluation Techniques", by E. C. Coleman, *Proceedings, 1947 ASTD Conference.*

Exhibit 1

Training Association of Southern California—Evaluation Survey—October, 1947.

MEASURING TRAINING RESULTS.

1. Types of training in question: _____
 2. Objectives of training: _____
 3. Brief picture of conditions before training (where possible, use terms that tie in with training objectives; include opinions of those concerned): _____
 4. Records used to check training progress: _____
 5. Conditions after training, as seen in terms of (3) and (4) above: _____
 6. Factors other than training that may have helped cause these results: _____
 7. Net tangible and intangible results fairly credited to training: _____
- Name of company: _____ Address: _____
- Your name: _____ Title: _____
- May company identity be shown in survey results? Yes: _____ No: _____

PLEASE COMPLETE AND MAIL THIS FORM TO:

Training Association of Southern California

Exhibit 2

1. Types of training in question: Training supervisors on Union Contract.
2. Objectives of training: To give every supervisor a sound working knowledge of selected portions of our Union Agreement with which every supervisor should be acquainted.
3. Brief picture of conditions before training: Numerous grievances were being written by the Union claiming that plant supervision was not living up to management's end of the agreement and in too many cases the grievances were justified. In analyzing the cause it was determined that there were two factors which were responsible. (1) Some supervisors had never even read the contract. (2) Those that had read the contract frequently interpreted it to fit their needs. The condition was so bad that practically no grievances, once written, were being settled at the foreman step of the grievance procedure.
4. Records used to check training progress: The records maintained were the record of the number of grievances written claiming violation of the mechanics involved in handling the grievance procedure and the number of grievances settled by the foremen.
5. Conditions after training, as seen in terms of (3) and (4) above: The training program on the Union Agreement was originally set for a total of five hours. At the end of this training period a true and false questionnaire was given and the papers were collected although no names were required. The average of all the grades was 72.3. This result was not satisfactory and it was decided to extend the program for another five weeks. A new and different questionnaire (of equal severity with the first) was given at the end of the second five weeks and the average grade was 94.4. Since 127 men took this second test it was looked upon as an indicator that our training had gotten across. In the three months following the completion of the program, only five grievances were written claiming violation of the mechanics of the grievance procedure. In four of these five grievances supervision's stand was definitely correct. The percentage of grievances settled by the foreman has gradually increased to where over 20% of all grievances are settled on the floor.
6. Factors other than training that may have helped cause these results: No other factors can be tied in with the results attained unless we would consider the added experience which each supervisor gained on his own job as a factor. In a few cases where supervision was new that added experience probably contributed something.
7. Net tangible and intangible results fairly credited to training: The answers to this question have already been given above. In both examples which we have covered top management was highly pleased with the results.

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Output—(production, sales)—A key index. Watch for various ways of describing this, based on different indicators such as pieces per hour, efficiency, bonus earnings, quality. Similarly, watch for the many factors other than training that affect production.

Specific Problems Solved—New Methods—Show problem exists; relate to output. Show overall as well as sample savings. Count released time only if it is re-used. Credit training for savings for short period only, since long run improvement probably is inevitable due to general adoption of new methods. Give full credit to others, including originators of new ideas and those who put new ideas into practice. This criterion is popular with trainers. Savings are often shown in dollar and cents.

Accident Statistics—Excellent; factual, readily available, adaptable to graphic representation. Safety is believed to have definite positive correlation with efficiency.

Learning Time—A fundamental aspect of training, often not as impressive as criteria cited above. Also note reductions in learning costs, such as when learners are on guaranteed day rates of wages.

Conclusion

The need for evaluation as a basis for management control is clearly shown. The essence of evaluation is the comparison of results with objectives. Such objectives must be stated in terms of practical standards, agreed upon in advance of training and modified in the light of experience. Evaluation then becomes management's guide in the control of the training function.

The firms surveyed report much more extensive training programs than does the average industrial firm, but the emphasis by types of training is similar. The recent attention to supervisory training in such an area as human relations, utilizing the conference method, is clearly shown.

Fundamental aspects of the place of training in industry are seen in the case material.

The close integration of selection, training, and placement which permit them to occur in that order is pointed up. The connection between training and methods work, especially regarding operating procedures, becomes apparent. So does the fundamental and pervasive relation of training to all operations and personnel, as illustrated by the secondary effects of training, including the improvement of communication and morale.

Many training programs are described incidental to the discussion of evaluation. The forced scrutiny of the program, required as a basis for evaluation, is in itself often suggestive of valuable modifications. The need for advance planning and for the integration of training with operations is forcibly brought out.

Questionnaire techniques, to get the opinions of trainees and others as to the general and particular values of training programs, are widely used. Essentially these are a refinement of the process of evaluation by observation. When carefully done, they may provide worthwhile information not obtainable in any other way. Poorly handled, they may be worse than useless, especially when they are misleading.

Case results are usually in terms of narrative and arithmetical data; very little attention has been paid to techniques of presentation. This is natural, because time could ill be spared to give extensive illustrations, and because the material was compiled mainly for research purposes. However, adequate presentation is an important element of practical evaluation for management use; the use of simple but forceful graphic techniques is recommended.

A good beginning has been made in the evaluation of industrial training. But it is up to training men themselves to carry it on and to see that management judges their work on its merits rather than on some mystic basis which keeps the training function on an uncertain basis.