

Managing Evaluation of Training at Workplace

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Abstract

In today's global economy, employees' professional development through training is a vital element in any organization's growth strategy. It is observed that in spite of good investment in training, many establishments do not always evaluate the impact of such training programmes. As in depth measurement of training effectiveness is costly. At the same time, considering the rise in training investment for employees, there is a growing need to evaluate training in a meaningful way, doing so can result in a better allocation of training resources, cost savings, and increased productivity.

Considering the significance of return on investment made for employee development, it is imperative to develop a system to help organizations in measurement of training effectiveness. An attempt is made in this paper to discuss the major challenges, including overall process and techniques associated with training evaluation. It will guide organizations in designing and conducting systematic training evaluation as well as for enhancing their competitiveness.

Key Words: *Training, Evaluation, TNA, Techniques of Evaluation, Employee Development.*

Introduction

Evaluating a training program or training course means continuously assessing its progress and its effectiveness. Evaluation is the final stage in the training cycle, generally overlooked and perhaps the most essential. It is necessary to improve our own performance, our delegates' learning, and the course itself. The term 'evaluation' is widely used and its perceptions vary from organizations to organizations. It sometimes overlaps with

such terms as 'validation' and 'assessment', which can puzzle the situation.

As per Goldstein (1988), 'Evaluation is the systematic collection of descriptive and judgmental information necessary to make effective training decisions related to the selection, adoption, value and notification of various instructional activities'. 'Evaluation is a continuous process that tends to proceed through cycles of evaluation, revision, and

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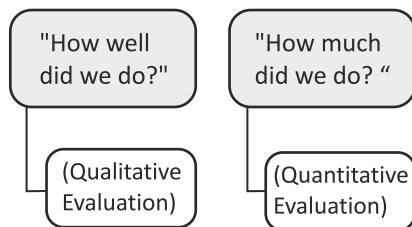
reevaluation”.

Mostly, it is more difficult to obtain precise measurements, but it can be a very valuable process. Apart from the collection of valuable data, the process at the company level can improve communications between the training department and the rest of the organization, as well as raise the profile and the quality of interaction. This paper focuses on the wider organizational perspective on evaluation with a view to improving trainer competence and improving the training programmes in order to meet learning outcomes.

2.0 Functions of Evaluation

There are many functions of evaluation, it mainly involves two aspects such as qualitative and quantitative evaluation. The evaluation attempts to retort the two questions as shown in figure 1 as given below.

Figure 1: Functions of Evaluation



2.1 Qualitative evaluation - Qualitative evaluation is an assessment process that answers the question, "How well, did we do?" Given below are some examples of qualitative evaluations in several areas of teacher training programme:

a. Content, quality, and relevance of a training program

- What was learned?

- Are the trainees using their new knowledge? If so, how?

b. Attitudes and achievements of the learners

- What do the trainees think about the classes, the trainer, and the training materials?
- Do they think the training classes made a difference in their lives? If yes, what kind of difference?

c. Selection, training, attitude, and ability of trainer and other instructor personnel

- Did the trainer do a good job of communicating the new information?
- Did they respect and support the trainees?

d. Quality of resources (including training materials)

- Do people in the organization like the materials?
- Do they think the materials accurately portray the training requirements?
- Do they think the materials are appropriate for each group of trainees?
- Do the materials communicate information they want to learn?

e. Efficiency of strategies and activities

- Do people in the training program think the teacher-training program is successful?
- Do they think the trainers and instructor are trained properly?
- Which activities do they think are good? Which activities do they think are not good?

f. Costs in relation to what was achieved?

- Do people in the organization think the results of the training program are worth the cost and energy that were necessary to get the program started and to keep it going?

2.2 Quantitative evaluation - Quantitative evaluation is an assessment process that answers the question, "How much did we do?" Here are some examples of quantitative evaluations in several areas of teacher training:

a. Numbers of trainees, classes, and materials produced.

- How many trainees were in the target group?
- How many trainees started the course? How many completed the course? How many dropped out?
- How many books were produced?

b. Trainees performance

- Test scores
- Reading, writing, and numeracy skills

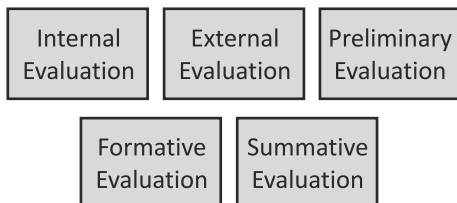
c. Costs

- In relation to number of trainees, books, and teachers
- Program costs

3.0 Kinds of Evaluation

There are various kinds and classifications of

Figure 2: Kinds of Evaluation



evaluation. Here are some kinds of evaluations usually done as shown in figure 2.

4.0 Purpose and Benefit of Evaluation

Evaluation is the last stage in any training cycle. It forms an integral part of the systematic approach, the quality control part, and therefore, should not be often neglected. The main five purposes of evaluation include:

- Purpose of Training Evaluation**
- Feedback
 - Research
 - Intervention
 - Power games
 - Control

a) Feedback: It helps in giving feedback to the trainees by defining the objectives and linking it to learning outcomes. It provides feedback on how well you are doing. The feedback is not only our own performance, but also on the quality of the design and delivery of training activities. It can focus in general as well as the part, and provides useful information on the 'Review to improve' the stage. In the same way, that we can provide our learners with feedback through various mechanisms, we can also receive it to help improve our performance and our product.

b) Research: It helps in ascertaining the relationship between acquired knowledge, transfer of knowledge at the workplace, and training. It can add to body knowledge on training principles and practice that could have much wider application than feedback evaluation. We can learn from the evaluation process and the techniques used, and possibly refine or improve those techniques as well as discover opportunities to apply them in other fields.

c) Control: It helps in controlling the training

program because, if the training is not effective, then it can be dealt with accordingly. It can measure the effectiveness of the transfer of learning back to the workplace. This can be a lengthier, and therefore, expensive, process and a cost/ benefit analysis is required, before such an operation can be started.

- d) **Power games:** At times, the top management (higher authoritative employee) uses the evaluative data to manipulate it for their own benefits.
- e) **Intervention:** It helps in determining that whether the actual outcomes are aligned with the expected outcomes. It can relate our training policy and practice to organizational goals. Are the form and content of training consistent with company philosophy and culture? Will it contribute to organizational development over the next few years? Is it the most cost-effective way of achieving these wider objectives?

There are number of benefits and purposes of conducting an evaluation. Here are some benefits of assessing training:

- Evaluation improves the future planning and implementing of training.
- Evaluation helps determine the extent to which training objectives have been achieved.
- Evaluation gives insights for a) reviewing, b) adjusting, and c) revising goals, schedules, and procedures.

5.0 Barriers to Evaluating Training Programmes

It is sometimes difficult to understand why the rigorous evaluation of training efforts is the exception rather than a rule. There are a

number of reasons; some of them include the following:

- a) Evaluation of training means different things to different people.
- b) Top management does not usually require evaluation.
- c) There is no perceived need by those responsible for training.
- d) Most senior-level training executives (and other staff) do not know how to go about evaluating training initiatives.
- e) Senior-level training managers and staff do not know what to evaluate.
- f) The serious evaluation of training in organizations is a difficult task and is perceived as costly and risky.
- g) Training personnel do not have the resources (i.e., time, money, or personnel).
- h) Training personnel (or clients) perceive that they do not have the resources.
- i) Training personnel do not want to know.
- j) Lack of attention to evaluation in the design of training initiatives, and
- k) Lack of evaluating training standards.

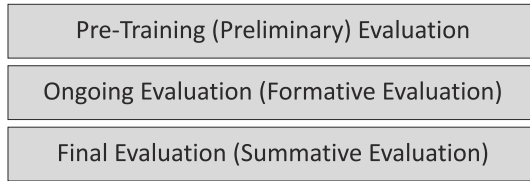
Evaluation is mainly concerned with providing feedback to the training function and organizational members about the progress and impact of training efforts. Such information may suggest the need for further diagnosis and modification of the training initiatives, or it may show that the training efforts are successful. It is therefore, necessary for organizations to reduce the barriers in evaluating training initiatives.

6.0 Process of Training Evaluation and Stages

There are mainly three stages involved in the process of training evaluation. Here are the 3

stages of the evaluation process shown in figure 3 given below.

Figure 3: Stages of Training Evaluation



6.1 Pre-training Evaluation (Before Training)

Pre-training evaluation is a method of judging the worth of a program before the program activities begin. The learner's skills and knowledge are assessed before the commencement of the training program. During the start of training, candidates generally perceive it as a waste of resources, because at most of the time, trainees are unaware of the objectives and learning outcomes of the program. Once aware, they are asked to give their opinions on the methods used and whether those methods confirm to the trainees preferences and learning style.

Major Objectives of Pre-training Evaluation is:

- To determine the appropriateness of the context of a training activity
- To help define relevant training objectives.

Key Steps

Following steps are usually made to conduct the pre-training evaluation:

- i. Gather baseline data on the trainees
 - knowledge
 - skills, and

- attitudes
- ii. Review the established needs as defined in the literacy program plan.
 - iii. Answer the following questions:
 - Do the trainees and the training organization agree on the established needs?
 - Will the training meet a portion of the established needs?
 - Will those who need the training be available to attend the training activity?
 - Will be meeting the defined objectives produce the desired outcome?
 - Is the content appropriate for the objectives?
 - Will trainees and trainers be comfortable with the chosen training methods?
 - iv. Based on information gathered in Steps 1 through 3, assess the suitability of the training objectives, and the organizational requirements of the training program or activity.

6.2 Formative Evaluation (During Training)

Formative evaluation is a method of judging the worth of a program, while the program activities are forming or happening. Formative evaluation focuses on the process. It is the phase at which instruction is started. This phase usually consists of short tests at regular intervals. Some examples of formative evaluation are as follows,

- Testing the arrangement of lessons in an instructor's book before its publication.
- Collecting continuous feedback from participants in a program in order to revise the program as needed.

Main Objectives of Formative Evaluation

- To assess training course or workshop as it progresses.
- To find out the extent of program implementation
- To determine improvements and adjustments needed to attain the training objectives.

Key Steps

Following steps are usually adopted in conducting a formative training evaluation:

- i. Observe trainee's behavior.
- ii. Have informal talks about the training activity with the trainees.
- iii. Give short tests to trainees.
- iv. Hold group discussions with the trainees to gain the feedback.
- v. Answer the following questions:
 - Did you identify training needs correctly?
 - Have you noticed other areas, which need attention?
 - Are there indications that the training objectives will be met?
 - Do the objectives need to be revised?
 - Are the training topics being taught?
 - Have additional training topics come up, which need to be taught?
 - Are the training methods appropriate or do you need to adjust them?

6.3 Summative Evaluation (After Training)

Summative evaluation is a method of judging the worth of a program at the end of the program activities. The focus is on the outcome. It is the phase, when learner's skills and knowledge are assessed again to measure

the effectiveness of the training. This phase is designed to determine, whether training has had the desired effect at individual department and organizational levels? There are various evaluation techniques for this phase. Some examples of summative evaluation are as follows,

- Determining attitudes and achievement related to using a primer after it has been used in a training course.
- Collecting data on the impact of a program operating in a community for a period of time.

Main Objectives of conducting a Summative Evaluation

- To find out the extent to which training objectives were achieved and the original training plan implemented.
- To help decide whether a training activity or any of its parts should be revised, continued, or terminated.

Key Steps

Follow these steps to do a summative training evaluation:

- i. Have the trainees conducted demonstration lessons.
- ii. Have others observed trainees' behavior.
- iii. Give comprehensive tests to the trainees.
- iv. Gather impressions of trainers and trainees through questionnaires and interviews.
- v. Answer the following questions:
 - Did the training meet the training objectives?
 - Will trainer need to improve and modify some areas?
 - Should the trainer conduct the training

activity again?

- How can we help the trainees to attain further training?

Tasks

Each stage involves the following tasks:

- Deciding what needs to be evaluated
- Carrying out the evaluation
- Collecting evaluation data
- Analyzing the data
- Reporting the outcome
- Revising as necessary
- Evaluating the revised program or activity

7.0 Models of Training Evaluation

Methods for the effective evaluation of training have been studied for some time. The most well-known and used model for measuring the effectiveness of training programs was developed by Donald Kirkpatrick (1950). Other models are unrelated to Kirkpatrick, having a rather different approach to how training evaluation might take place. Some of them includes:

- Responsive evaluation (Pulley, 1994), which focuses on what decision makers in the organization would like to know and how this might be met.

- Context evaluation (Newby, 1992), which focused on appropriate evaluation for different contexts, and.
- Evaluative enquiry (Preskill and Torres, 1999), which approaches evaluation as a learning experience using dialogue, reflection and challenge to distil learning opportunities to create a learning environment and develop enquiry skills.

The final group of models emphasizes the importance of different measures of impact, including the learning outcomes' approach of Kraiger et al. (1993) linking training evaluation to cognitive, skill-based and affective learning outcomes, and the balanced scorecard approach of Kaplan and Norton (1996), which focuses on different perspectives of finance, customers and internal processes.

7.1 The Kirkpatrick Model

The Kirkpatrick model is now considered to be the industry standard, and is frequently used by HR departments when determining their own systems.

It has since been adapted and modified by a number of writers; however, the basic structure has well stood the test of time. The basic structure of Kirkpatrick's four-level model is shown in figure 4 as given below.

Figure 4: Kirkpatrick Model for Evaluating Training Effectiveness

Level 4 Results	What organizational benefits resulted from the training?
Level 3 Behavior	To what extent did participants change their behavior back in the workplace because of the training?
Level 2 Learning	To what extent did participants improve knowledge, skills, and change in attitudes because of the training?
Level 1 Reaction	How did participants react to the program?

An evaluation at each level answers, whether a fundamental requirement of the training program was adequately met. It is not that conducting an evaluation at one level is more important than another. All levels of evaluation are important. In fact, the Kirkpatrick model explains the usefulness of performing training evaluations at each level. Each level provides a diagnostic checkpoint for problems at the succeeding level. Therefore, if participants did not learn (Level 2), participant reactions gathered at Level 1 (Reaction) will reveal the barriers for learning. Now moving up to the next level, if participants did not use the skills once back in the workplace (Level 3), perhaps they did not learn the required skills in the first place (Level 2).

The difficulty and cost of conducting an

evaluation increases as you move up the levels. Therefore, you will need to consider carefully, what levels of evaluation you will conduct for which programs. You may decide to conduct Level 1 evaluations (Reaction) for all programs?, Level 2 evaluations (Learning) for “hard-skills” programs only, Level 3 evaluations (Behavior) for strategic programs only and Level 4 evaluations (Results) for programs costing considerable investment. Above all else, before starting an evaluation, we need to be clear about our purpose in conducting the evaluation.

7.2 Using the Kirkpatrick Model

How do one can conduct a training evaluation? Here is a quick guide on some appropriate information sources for each level as shown in figure 5.

Figure 5: Level wise Sources of Information for Kirkpatrick Model

Level 1 (Reaction)	Level 2 (Learning)	Level 3 (Behavior)	Level 4 (Results)
<ul style="list-style-type: none"> Completed participant feedback questionnaire Informal comments from participants Focus group sessions with participants 	<ul style="list-style-type: none"> Pre- and post-test scores On-the-job assessments Supervisor reports 	<ul style="list-style-type: none"> Completed self-assessment questionnaire On-the-job observation Reports from customers, peers and participant’s manager 	<ul style="list-style-type: none"> Financial reports Quality inspections Interview with sales manager

7.3 Technique for Finding Training Outcomes

When considering, what sources of data one will use for evaluation, we need to think about the cost and time involved in collecting the data. Balance this against the accuracy of the source and the accuracy actually needed. Will the current sources suffice or we will need to

collect new information?

One need to think broadly about where we can get information. Some of sources may include:

- Hard copy and Online Quantitative Reports
- Production and Job Records
- Interviews With Participants, Managers, Peers, Customers, Suppliers and Regulator

Table 1: Level of Evaluation and Training Outcomes

No	Level of Evaluation	How to find the Outcome?
Level 1	Reaction of the trainees	Enquire trainees orally; use a feedback form at the end of the program.
Level 2	Learning occurred or not	Ask questions orally; give a written test at the end of the program.
Level 3	Behavior changed or not	Observe on the job; seek report from the supervisor, peer, customer, or subordinate.
Level 4	Result produced or not	Look for outcomes like increase in sales/productivity in customer care etc.
Level 5	Return of investment got or not	Calculate the cost of training and the monetary value of the performance outcome resulted.

- Checklists and Tests
- Direct Observation
- Questionnaires, Self-Rating and Multi-Rating, and
- Focus Group Sessions

Once we have completed our evaluation, distribute it to the people who need to read it. In deciding on our distribution list, refer to previously stated reasons for conducting the evaluation.

8.0 Overview of Methods to Collect Information

There are various methods used by organizations, training establishments, and trainers for collecting data during evaluations. Table 2 an overview of the major methods used for collecting data during evaluations.

9.0 Outcomes used in Evaluating Training Programs

The next consideration in training evaluation includes different set of outcomes related to knowledge, skills, attitudes, and results and

return on investments. The details of each outcome are summarized as follows -

- **Cognitive Outcomes**

- Determine the degree to which trainees are familiar with the principles, facts, techniques, procedures, or processes emphasized in the training program.
- Measure what knowledge trainees learned in the program.

- **Skill-Based Outcomes**

- Assess the level of technical or motor skills.
- Include acquisition or learning of skills and use of skills on the job.

- **Affective Outcomes**

- Include attitudes and motivation.
- Trainees' perceptions of the program include the facilities, trainers, and content.

- **Results**

- Determine the training program's payoff for the establishment.

Table 2: Methods Used for Collecting Data during Evaluations

Method	Overall Purpose	Advantages	Challenges
Questionnaires, Surveys, Checklists	When need to quickly and/or easily get lots of information from people in a non-threatening way	<ul style="list-style-type: none"> a) Can be completed anonymously b) Inexpensive to administer c) Easy to compare and analyze d) Administer to many people e) Can get lots of data f) Many sample questionnaires already exist 	<ul style="list-style-type: none"> a) Might not get careful feedback b) Wording can bias client's responses c) Are impersonal d) In surveys, may need sampling expert e) Doesn't get full story
Interviews	When want to fully understand someone's impressions or experiences, or learn more about their answers to questionnaires	<ul style="list-style-type: none"> a) Get full range and depth of information b) Develops relationship with client c) Can be flexible with client 	<ul style="list-style-type: none"> a) Can take much time b) Can be hard to analyze and compare c) Can be costly d) Interviewer can bias client's responses
Documentation Review	When want impression of how program operates without interrupting the program; is from review of applications, finances, memos, minutes, etc.	<ul style="list-style-type: none"> a) Get comprehensive and historical information b) Doesn't interrupt program or client's routine in program c) Information already exists d) Few biases about information 	<ul style="list-style-type: none"> a) Often takes much time b) Info may be incomplete c) Need to be quite clear about what looking for d) Not flexible means to get data; data restricted to what already exists
Observation	To gather accurate information about how a program actually operates, particularly about processes	<ul style="list-style-type: none"> a) View operations of a program as they are actually occurring b) Can adapt to events as they occur 	<ul style="list-style-type: none"> a) Can be difficult to interpret seen behaviors b) Can be complex to categorize observations c) Can influence behaviors of program participants d) Can be expensive
Focus Groups	Explore a topic in depth through group discussion, e.g., about reactions to an experience or suggestion, understanding common complaints, etc.; useful in evaluation and marketing	<ul style="list-style-type: none"> a) Quickly and reliably get common impressions b) Can be efficient way to get much range and depth of information in short time c) Can convey key information about programs 	<ul style="list-style-type: none"> a) Can be hard to analyze responses b) Need good facilitator for safety and closure c) Difficult to schedule 6-8 people together
Case Studies	To fully understand or depict client's experiences in a program, & conduct comprehensive examination through cross comparison of cases.	<ul style="list-style-type: none"> a) Fully depicts client's experience in program input, process and results b) Powerful means to portray program to outsiders 	<ul style="list-style-type: none"> a) Usually quite time consuming to collect, organize and describe b) Represents depth of information, rather than breadth

• **Return on Investment (ROI)**

- Compare the training's monetary benefits with the cost.
- Direct costs
- Indirect costs
- Benefits

10.0 Contents of an Evaluation Plan

For conducting a training evaluation effectively, it is necessary to have an evaluation plan. Such evaluation plan assists the organization as well as training practitioners that program evaluations being carried out efficiently in the future. It may be noted that now a day's funding agencies also want or benefit from a copy of this plan.

Evaluation plan needs to be well document, so that, one can regularly and efficiently carry out his/her evaluation activities. Given below a suggestive format for preparing the report:

- I. Title Page (name of the organization that is being, or has a product/service/program that is being, evaluated; date)
- II. Table of Contents
- III. Executive Summary (one-page, concise overview of findings and recommendations)
- IV. Purpose of the report (what type of evaluation(s) was conducted, what decisions are being aided by the findings of the evaluation, who is making the decision? etc.)
- V. Background about Organization and Product/Service/Program that is being evaluated.
 - a) Organization Description/History
 - b) Product/Service/Program Description (that is being evaluated)
 - c) Problem Statement (in the case of

nonprofit, description of the community need that is being met by the product/service/program)

- d) Overall Goal(s) of Product/Service/Program
 - e) Outcomes and Performance Measures (that can be measured as indicators toward the outcomes)
 - f) Staffing (description of the number of personnel and roles in the organization that are relevant to developing and delivering the product/service/program)
- VI. Overall Evaluation Goals (e.g., what questions are being answered by the evaluation)
 - VII. Methodology
 - a) Types of data/information that were collected
 - b) How data/information was collected (what instruments were used, etc.)
 - c) How data/information was analyzed
 - d) Limitations of the evaluation (e.g., cautions about findings/conclusions and how to use the findings/conclusions, etc.)
 - VIII. Interpretations and Conclusions (from analysis of the data/information)
 - IX. Recommendations (regarding the decisions that must be made about the product/service/program)
 - X. Appendices: content of the appendices depends on the goals of the evaluation report, e.g.:
 - a) Instruments used to collect data/information
 - b) Data, e.g., in a tabular format, etc.
 - c) Testimonials, comments made by users of the product/service/

program

- d) Case studies of users of the product/service/program
- e) Any related literature.

11.0 Suggestions to Conduct Program Evaluation

Given below are few suggestions and guidance toward planning and implementing an evaluation process. Such suggestions need to consider that there are many kinds of evaluations that can be applied to programs, for example, goals-based, process-based, outcomes-based, etc.

- i. Do not start at evaluation, because it seems far too "scientific." Usually the first 20% of effort will generate the first 80% of the plan, and this is far better than nothing is.
- ii. There is no "perfect" evaluation design. Do not worry about the plan being perfect. It is far more important to do something, then to wait until every last detail has been tested.
- iii. Work hard to include some interviews in evaluation methods. Questionnaires do not capture "the story," and the story is usually the most powerful depiction of the benefits of our services.
- iv. Do not interview just the successes. One can learn a great deal about the program by understanding its failures, dropouts, etc.
- v. Do not throw away evaluation results once a report has been generated. Results do not take up much room, and they can provide precious information later when trying to understand changes in the program.

12.0 Conclusion

Currently, every organization or institution is

involved in conducting training for his or her employees or staff. Analyzing training need often forms part of an ongoing cycle of need assessment, training delivery and evaluation of the training, which leads back to need assessment. The prime consideration is keeping them updated with the futuristic needs of the organization. Much of the value of training is lost, if there is no form of evaluation or assessment. Organizations need to know, whether the training has achieved the objectives that were set for it.

More sophisticated form of training evaluation measures, the performance of employees after the training and compare it with their performance before. The form of measure depends on the nature of the tasks being performed. It is unlikely that a single cycle of training needs analysis and subsequent training will resolve all issues. This is why the cycle needs to be repeated. Other factors, such as new technology and employee turnover will also necessitate the cycle of training needs assessment to go on. Evaluation of training within work settings can assist employees in learning more about their organization. It is important to understand the purpose of evaluation before planning it and choosing methods to do it. Some advantages of using evaluations are difficult to directly witness, but when done correctly they have impact organizations in positive ways.

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