Chapter 2. Review of Literature

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Chapter 2

Review of Literature

2.1 Introduction

The purpose of this chapter is to present the literature reviewed in order to address the main aspect of this study. During the initial stage of the study, the purpose of the review was to gain an insight about the concerned subject matter. In this stage, various concepts and theories with respect to the objective of the study were reviewed. Then the review was made in a way to get acquainted with the advancement of work done in relation to the factors found out in the first stage, which has some relevance to the work undertaken.

A comparison was also made to the study about to be undertaken, specially in relation to a rural setup and the factors necessary for successful evaluation were tried to be brought to the fore.

For easy understanding, this chapter is divided into 2 parts.

The first part will deal with the conceptual framework (relevant theories from relevant books) and the second part will deal with the relevant work done earlier (journals and papers).

2.2 Reviews of theories

Training may be defined as an attempt to improve an employee’s performance by increasing his or her ability through learning, usually by changing the attitude and
acquiring new skills and knowledge. It has to be continuously offered to keep the employees updated and effective.

In medical field the concept of training is not new. It is all the more important because one of the main priorities of people in life is health, which depends on efficient healthcare. Medical Training normally concentrates on the improvement of working skills (acquiring new skills or updating old skills and knowledge), interpersonal skills, decision making skills or a combination of these. Thus we find that training to medical employees brings about an improvement in them which in turn improves the quality of health care services.

2.2.1 Training Methods

There are two broad types of trainings –on the job and off the job.

On the job training-It is basically ‘learning by doing - while working’. Such training is imparted to the employees while they perform their regular jobs. On the job training includes coaching, orientation, job instruction training, apprenticeships, internships and assistantships, job rotation and coaching.

Off the job training-This type of training is imparted off the job i.e., outside the work premises. This type of training includes classroom activities like lectures, special studies, display of films, tele-conferencing, group discussions, case studies, role playing, simulation, vestibule trainings, programmed instructions and laboratory trainings.
2.2.2 Techniques of training

A) Sensitivity training:

This became popular during 1950's as a method of changing behaviour through group processes. Members are brought together in a free and open environment in which participants discuss among themselves and their interaction process is loosely facilitated by a professional behavioral scientist that then creates opportunities for the participants to express their ideas, beliefs and attitudes. The objective of sensitivity training are to provide managers with increased awareness of their own behaviour and how others perceive them (?) greater sensitivity to the behaviours of others and increased understanding of group processes.

B) Transactional analysis:

Of late there has been a new trend of training managers and workers also by providing an understanding of human behaviour and its reasons and correlation through a method known as Transactional Analysis developed by Errie Berne and Jongeward and Harris. This suggests that when people interact with others, there is a transaction for which one person responses to another. The study of these social transactions between people is called Transactional Analysis. It was popularized by Berne's book “Games people play”(1964) and Harri’s book “I am ok, you are ok”(1976). The objective of Transactional Analysis is to provide better understanding of how people relate to one another so that they may develop improved communication and human relations.
C) Lecture courses:

Formal lecture courses offer an opportunity for managers or potential managers to acquire knowledge and develop their conceptual and analytical abilities.

D) Simulation Exercise:

The widely used simulation exercises include decision games and role playing. Role playing and simulation are training techniques that attempt to bring realistic decision making situations to the trainees. Simulated decision games and role playing exercises put individuals in the role of a decision maker for sorting out managerial problems. Role playing allows the participants to act out problems and to deal with real people. Participants are assigned roles and are asked to interact with one another as they would have to do in their managerial roles.

E) Case Study:

Case analysis approach to management development was popularized at the Harvard graduate school of business. It involves the classroom participation where the trainees are assigned some problems based on principles already taught. The trainees have to find out solution. The instructors help wherever the trainees are held up. The main objective of providing this training is to improve conceptual, problem solving and judgment skill of personnel on real situations related to work settings.

2.2.3 The Training System

A System is a combination of things or parts that must work together to perform a particular function. An organization is a system and training is a sub system of the
organization. The Systems Approach views training as a sub system of an organization. Systems Approach can be used to examine broad issues like objectives, functions and aims. It establishes a logical relationship between the sequential stages in the process of training need analysis (TNA), formulating, delivering, and evaluating. There are 4 necessary inputs i.e. technology, man, material and time required in every system to produce products or services. Not to say that every system must have some output from these inputs in order to survive. The output can be tangible or intangible depending upon the organization’s requirement. A systems approach to training is planned creation of training programs. This approach uses step-by-step procedures to solve the problems. Under systems approach, training is undertaken on planned basis.

Organizations are working in open environment i.e. there are some internal and external forces, that poses threats and opportunities; therefore, trainers need to be aware of these forces which may impact on the content, form and conduct of the training efforts. The internal forces are the various demands of the organization for a better learning environment that need to be updated in line with the latest technologies.

There are three major stakeholders in training programs:

i) The Organization

ii) The Trainee

iii) The Trainer
The Organization

An organization has a very close relationship with the trainee and the trainer because it is the first contact for both. The demand for the training in the organization increases when the organization wants:

• To hire new people – training as a means of training new recruits
• To expand – when the company wants to increase its headcounts
• To increase certain number of staff (in position) by a certain date
• To enhance the performance of employees
• Organization’s name to be a part of training unit

Demand for training also increases when there is a change in the nature of job, change in taste of the consumer, change in methods of product development, etc.

The Trainee

The trainee is a major stakeholder in a training program. The whole training program is developed for the trainees only. Each participant plays an important role in the transfer of receptivity of the gains of training because one participant’s attitude regarding the training influences the other participant’s attitude.

Participant’s willingness to invest in the training program is directly proportional to the benefits of the learning that the trainee could expect. Each participant forms his/her own perception towards training. Some perceptions remain the same during the program, while some of them get faded depending upon the assessment of a program by the participant.
Some environmental factors that affect the trainees’ learning are:

- Relationship with colleagues and subordinates
- Training team
- Trainer team
- Training objective(s)
- Contents of training
- Training design i.e. methods, techniques, and strategies
- Environment in the training program
- Composition of training group
- Infrastructure

No matter how good the training program is, in the end it is the participant only who decides whether to change his behaviour or not. Trainees do not change their behavior merely because someone tells them to do. They change when they feel there is a need of it. They do it with their own learning style. The trainer and the organization can only try to remove the mental blocks of the trainees and the rest depends on trainees themselves.

**The Trainer**

The effective transfer of training depends a lot on the trainer because it is the trainer only who can remove the mental block of the trainees, motivate the trainees to learn, delete the negative perception of the trainees regarding the training. A lot of these contributions by the trainer are dependent upon the personality of trainer also.

**Competence of trainer**

- The trainer should have the ability to motivate the trainees and to hold their interest.
• The trainer should possess sound knowledge in the subject matter or area in which people are being trained.

• The trainer should have the ability to relate the training importance to the practical world of trainees by giving appropriate examples.

• The trainer should have capacity to understand the organizational needs and work strategically.

• The trainer should be able to control the group of trainees and should be able to manage the training situations.

• The trainer should be creative and imaginative to design and deliver training programmes and to have time management skills to make effective use of time.

• The trainer should have effective and empathetic listening skills.

**Trainer’s Skills**

A) **Communication Skills**: The main critical success factor for a trainer is his communication ability. By communication we not only mean his verbal delivery skills but also include the trainer’s non-verbal cues.

The trainer’s communication skills can be classified into three key categories-

a) Verbal language

b) Listening skills

c) Motivating participation
Verbal Language:

Verbal skills include language skills both spoken and written. It is important for any trainer to use appropriate grammar and syntax. This depends on the proficiency of the trainer over the language that he is speaking.

How words are spoken is very important in training situation. The pronunciation and the phonetic accent play an important role. How trainer speaks includes vocal pitch, tone, rhythm, pauses, laughter and groaning etc., which are not considered as language but do convey meaning.

Listening Skills:

Listening is different from hearing. Hearing is with ears while listening is with mind. The trainer should have effective listening capability. The speaker can speak at the rate of 100-200 words whereas the listener's brain can process words faster than the rate at which the words are spoken and vice-versa. Listening is a conscious positive act that requires will power and concentration. It is a very difficult skill that is to be cultivated by rigorous practice.

Motivating Participants:

One of the prime responsibilities of the trainer is to go all out to motivate the trainees as it enables and enhances the communication and facilitation process. The trainer can adopt some of the following suggested ways to motivate trainees.

• Giving feedback
• Encouraging the trainees to stretch beyond their limits during the process of their learning.

• Giving prizes or awards to encourage competition.

B) Questioning Skills: This technique is one of the greatest tools available in the armory of the trainer for enabling the trainees to learn to make them participate. The ability to ask probing questions forces the trainees to open their minds and stay focused on the topic under discussion is one of the greatest assets of the trainer.

The questions may be either open ended or close ended. A closed question has only one answer like true or false, yes or no, or a direct answer of the fact. This will serve the trainer to indicate whether the trainees are paying attention or not. Open ended questions probe more deeply and indicate how well the learning objectives are met. The questions asked may be either direct or indirect.

Making the questioning technique effective- The following is the list of things a trainer should know about asking questions-

• The trainer should tell the audience in the beginning itself that he/she will be asking a lot of questions and trainees are expected to provide answers to them.

• On most of the occasions open ended questions like who, what, where, when, why, how, if, etc. work the best.

• The trainer should question in such a way that the chances which exist for the trainee to answer that question should be great. Such answering will add effectiveness to the technique.
• The trainer should give credit and appreciation for partial answers too.

• The trainer should use variety of questions including direct and indirect ones and also ensure the availability of plenty of time for the trainee to respond.

C) Handling Difficult Situations: As a trainer one may have to get into disagreeable, disturbing and disliking situations during the course of the training. Handling it tactfully without getting his/her self respect hurt and at the same time without hurting the feeling of the trainees will go a long way in making the training programme a success.

D) Creativity Skills: Creative thinking skill which is a sine qua non for the trainer is usually associated with the ability to use analogies as well as the talent to see the familiar in different light. Some of the personality traits which are associated with creative thinking skills are intelligence, independence, self confidence, risk taking, internal locus of control and perseverance in the face of frustrations. The trainer needs flexibility of approach, use of initiative divergent and convergent thinking. As a trainer one has to use creative methodologies like brain storming, fish bowl, training games etc. adopting the same to the situation so as to bring in relevance for making the session effective.

E) Technical Skill: Technical skill is necessary when functional area training is conducted. The trainer must have technical expertise of value that no one else can offer. Computer skills, manufacturing processes skills, skills for using particular systems and equipment, carrying out policies and procedures are all included in technical skills
2.2.4 Training Design

“A training design is a detailed plan for what an individual will do, why he/she will be doing it and the best way to reach the training goals or objectives”. The design of the training program can be undertaken only when a clear training objective has been produced. The training objective should make it clear that which goal has to be achieved by the end of training program i.e. what the trainees are expected to be able to do at the end of their training. Training objectives assist trainers to design the training program.

**The trainer:** The learning process can be effective if the objectives are clearly defined. The objectives allow the trainer to determine the performance of the trainees and make appropriate recommendations for improvement. The objectives also help the trainers, who want freedom to train the way they want, to keep on the track.

**The trainees** – A good training design requires close scrutiny of the trainees and their
profiles. Age, experience, needs and expectations of the trainees are some of the important factors that affect training design. The trainee benefits from the training objectives in many ways:

- They reduce the fear of unknown
- They have a focus.
- They increase the likelihood of the trainee being successful in the training program.

High levels of anxiety can affect the trainees learning ability. Training objectives provide a clear picture of the activities being undertaken during the training program, which reduces the anxiety of not knowing what to expect at each level of the programmes.

**Training Designer:** The learning objectives guide the designer of the training. They directly translate the training needs into training outputs. With clear objectives in place, the contents and methods being used in the training programme can be tested for their consistency and effectiveness.

**Training Evaluator:** Evaluation of training is very easy when objectives are present because these objectives define the guidelines for behavior that is expected or the outcome of training. When objectives are not present, there is no way an evaluator can assess the effectiveness of training. Good objectives when developed simply necessitate the evaluator to assess whether the outcome/standards have been reached.
Training strategies – Once the training objective has been identified, the trainer translates it into specific training areas and modules. The trainer prepares the priority list of about what must be included, what could be included.

Training topics – After formulating a strategy, trainer decides upon the content to be delivered. Trainers break the content into headings, topics and modules. These topics and modules are then classified into information, knowledge, skills, and attitudes.

Sequence the contents – Contents are then sequenced in a following manner:
  - From simple to complex
• Topics are arranged in terms of their relative importance
• From known to unknown
• From specific to general
• Dependent relationship

Support facilities

(a) To be distributed to trainees – It can be segregated into printed and audio visual.

(b) To be used (shared) by the trainees during training -- The various requirements in a training program are white boards, flip charts, markers, etc.

Constraints – The various constraints that lay in the trainers’ mind are:
• Time
• Accommodation, facilities and their availability
• Furnishings and equipments
• Budget
• Design of the training, etc

Training Implementation

Implementation of training requires facilities like training site, logistical arrangements, physical arrangements and environment, proper disposition, equipment materials and furniture etc

2.2.5 Implementing Training

Once the staff, course contents, equipments and topics etc. are ready, the training is implemented. Completing training design does not mean that the work is done because
implementation phase requires continual adjusting, redesigning, and refining. Preparation is the most important factor to test the success. Following, therefore, are the factors that are kept in mind while implementing training programs:

A) Logistical Arrangements:

Logistics refers to movement of people, materials and equipments. The logistical arrangements include preparing training site, notifying the people, ensuring that the equipment is in place and the food and refreshments arrive as ordered. All logistical arrangements are to be made well in advance and they are to be double checked to ensure that everything goes on smoothly.

B) Physical Arrangements: ‘Physical arrangements’ refer to choosing the venue, furniture, room configuration, equipments and materials that will be used for training delivery. Some organizations outsource certain services. Even then it is the responsibility of the trainer that the physical arrangements conform to the expected level of learning experience and hence no compromises are to be made on this front.

a) Choosing the venue- The venue depends on whether the training is on-the-job or off-the-job and this in turn depends on the organization’s training policy, objectives of the program, the resources available, the resources that are needed, training budget, etc.

b) Room layout- In training situations many room configurations are possible as opposed to desks and chairs that are arranged in neat rows and columns facing the front of the room. The selection of configuration depends on the types of training and the training activities that will be undertaken.
c) Breakout rooms—Separate rooms located close to the main training hall where small groups can work in privacy are called breakout rooms. Flipcharts, Tables, Chairs, Phones, Computers if needed are provided in the breakout rooms.

d) Controlling the physical environment—The physical environment includes such factors as room temperature, air circulation and quality, lightening and sound safety and sanitation, etc. The physical environment influences the learning process; if the physical environment is too cold or too hot the learners may feel exhausted, tired and disconnected. On the contrary if the physical environment is comfortable, the trainees feel relaxed and cheerful, which encourages learning.

Establishing rapport with participants—There are various ways by which a trainer can establish good rapport with trainees by:

• Greeting participants – simple way to ease those initial tense moments

• Encouraging informal conversation

• Remembering their first name

• Pairing up the learners and have them familiarized with one another

• Listening carefully to trainees’ comments and opinions

• Telling the learners by what name the trainer wants to be addressed

• Getting to class before the arrival of learners

• Starting the class promptly at the scheduled time

• Using familiar examples

• Varying his instructional techniques

• Using the alternate approach if one seems to bog down

Reviewing the agenda—At the beginning of the training program it is very important to
review the program objective. The trainer must tell the participants the goal of the program, what is expected out of trainees to do at the end of the program, and how the program will run. In order to review the objectives of the training program the following information needs to be included:

- Kinds of training activities
- Schedule
- Setting group norms
- Housekeeping arrangements
- Flow of the program
- Handling problematic situation

**Essential Ingredients for a Successful Evaluation**

There are three essential ingredients in a successful evaluation. These are:

1. Support throughout the evaluation process. Support items are human resource, time, finance, equipments and availability of data source and records etc.
2. Existence of open communication channels among top management, participants and those involved in providing data etc.
3. Existence of sound management process.

**Purposes of Training Evaluation**

The five main purposes of training evaluation are:

*Feedback*: It helps in giving feedback to the candidates by defining the objectives and linking it to learning outcomes.
**Research:** It helps in ascertaining the relationship between acquired knowledge, transfer of knowledge at the work place, and training.

**Fig 2.3 Figure showing the purpose of Training Evaluation**

![Diagram](source)

Source: [www.training and development.naukrihub.com](http://www.training and development.naukrihub.com)

**Control:** It helps in controlling the training program because if the training is not effective, then it can be dealt with accordingly.

**Power games:** At times, the top management (higher authoritative employee) uses the evaluative data to manipulate it for their own benefits.

**Intervention:** It helps in determining that whether the actual outcomes are aligned with the expected outcomes.

**Process of Training Evaluation**

**Before Training:** The learner’s skills and knowledge are assessed before the training
program. During the start of training, candidates generally perceive it as a waste of
resources because most of the times candidates 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 candidates preferences and
learning style.

Fig 2.4 Process of Training Evaluation

During Training: It is the phase at which instruction is started. This phase usually
consists of short tests at regular intervals.

After Training: It is the phase where 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.
Types of evaluation instruments:

The various types of training evaluation instruments are:

- Observation
- Questionnaire
- Interview
- Focus Group
- Performance records

Observation- It is a very good technique of judging the training impact. Basically after the skill upgradation training, the people can be judged by their supervisors at work to evaluate the training effectiveness.

Questionnaire- A questionnaire can be prepared keeping the objective of the programme and can be administered to the participants to record their response about the effectiveness of the program. The responses are taken before the programmes to understand their expectations and again after the programme to know to what extent their expectations have been met.

Interview- Receiving participants’ feedback through interview is one of the methods of collecting data for evaluation. This method is very popular especially amongst lower level workers who are comfortable in vernacular language.

Interviews are meetings between an information gatherer and an information giver. Knowing what data are needed and who has it is the first step. To develop an interview guide, that will ensure that valid and reliable data are gathered, the researcher develops either an open ended or structured interview guide. Open ended interview results, which
are largely qualitative, are used when a small number of people are needed to explain processes, offer opinions or forecast needs. Structured interview guides usually result in more quantitative data.

Focus Group- When in depth feedback is needed, focus group, which is an extension of interview, is particularly helpful. The focus group is a small group discussion conducted by an experienced facilitator, designed to solicit qualitative judgment of the trainees on the program. It is an effective method for generating new ideas; it is least expensive and can be quickly organized.

Performance Record- It is secondary data available with the department which is readily used for evaluation purposes. Advantages like reliability, objectivity, ease of use and high job relevance could be attributed to using this method.

2.2.6 Training effectiveness

The effectiveness of training is a measurement of learning. It is determined by comparing post-test scores with pre-test scores and then measuring the net change.

A measurement of learning is not training effectiveness - it's a measure of learning! You can learn everything required, but fail to put it in required use to which the required outcome will not be achieved. Training in organizations is ALMOST ALWAYS about achieving a better performance or capability than is currently available - it's about OUTCOMES that favour the customer and the shareholder.

Training) efficiency is generally defined as the number of units output for the number of units input. Training efficiency can be measured in several ways-
Measuring Training Effectiveness

Measuring the effectiveness of training programs consumes valuable time and resources. As we know all too well, these things are in short supply in organizations today. Why should we bother? Many training programs fail to deliver the expected organizational benefits. Having a well-structured measuring system in place can help you determine where the problem lies. On a positive note, being able to demonstrate a real and significant benefit to your organization from the training you provide, can help you gain more resources from important decision-makers.

Consider also that the business environment is not standing still. Your competitors, technology, legislation and regulations are constantly changing. What was a successful training program yesterday may not be a cost-effective program tomorrow. Being able to measure results will help you adapt to such changing circumstances.

The Kirkpatrick Model

The most well-known and used model for measuring the effectiveness of training programs was developed by Donald Kirkpatrick in the late 1950s. 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 below:
An evaluation at each level answers whether a fundamental requirement of the training program was met. It’s 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. So, if participants did not learn (Level 2), participants’ reactions gathered at Level 1 (Reaction) will reveal
the barriers to 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 of the model. So, 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 over $50,000. Above all else, before starting an evaluation, be crystal clear about your purpose in conducting the evaluation.

When considering what sources of data you will use for your evaluation, think about the cost and time involved in collecting the data. Balance this against the accuracy of the source and the accuracy you actually need. Will existing sources be sufficient or will you need to collect new information.

The source from where the information could be collected includes:

- hardcopy and online quantitative reports
- production and job records
- interviews with participants, managers, peers, customers, suppliers and regulators
- checklists and tests
- direct observation
- questionnaires, self-rating and multi-rating
Focus Group sessions

**Hassett's Training Investment Analysis approach**

This model focuses on following four important areas and then measures the training effectiveness.

1) Need Analysis
2) Information gathering
3) Analysis
4) Dissemination

**CIPP approach to evaluation-Context, Input, Process, Product**

This model also emphasizes on four areas of training evaluation as under-

1) Context
2) Input
3) Process
4) Product

**Kaufman's Five Levels Evaluation of Training Impact** - This model extends the scope of training impact evaluation beyond the organization. It includes how training benefits the society and the surrounding environment in the organization.

<table>
<thead>
<tr>
<th>Level</th>
<th>Evaluation Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enabling</td>
<td>Quality input availability like human, financial physical resources</td>
</tr>
</tbody>
</table>
2. Reaction  | Methods, means and process acceptability and efficiency  
3. Acquisition | Individual and small group mastery and competency  
4. Application  | Individual and small group utilisation within the organisation  
5. Organisational  | Pay off to the organisation  
6. Societal outcomes | Payoff to the society  

**CIRO Approach to access Training Impact**

The name of this approach is CIRO, as these letters are drawn from the name of the evaluation categories. These are as under:

1) Context Evaluation  
2) Input Evaluation  
3) Reaction Evaluation  
4) Outcome Evaluation  

Once completed with the evaluation, we have to distribute it to those people who need to read it. In deciding on the distribution list, it refers to those previously stated reasons for conducting the evaluation. And of course, if there were lessons learned from the evaluation on how to make the training more effective, it should be acted on it.

In the evaluation of training, provided to the personnel working in health care sector, two pre-requisites are noteworthy:
1. To determine what is to be evaluated:

- Evaluation of **structure**: Whether facilities, equipments, manpower and organization to impart training meet a standard accepted by experts as good.

- Evaluation of **process**: The way in which the various activities of the training are carried out is evaluated by comparing the same with a pre determined standard.

- Evaluation of **outcome**: This is concerned with the end result of the training i.e, the persons who have availed training give services to the society and some measurable benefits emerge such as improved survival or reduced disability, *though the chances that the improvement in health care is only due to training is practically impossible to ascertain, given that other parameters of improved health care exist.*

2. Establishment of parameters and standards:

After determining ‘what is to be evaluated’ the next important task ahead remains fixing/developing the standards and the parameters with the help of which the performance/results is compared and the conclusions are drawn. Only after doing this it can be ascertained that whether or not the objectives have been attained. Not to say that the standards and parameters should be developed in accordance with the focus of evaluation only.

There could be three types of parameters to be used for the purpose. The same are discussed below:
Parameters and standards must be established to determine how well the desired objectives have been attained. Parameters and standards must be developed in accordance with the focus of evaluation -

* **Structural parameters**: The structural parameters could be in the form of physical facilities and equipments used for training.

* **Process parameters**: The parameters for the process may be in the form of number of training programs conducted and number of training programs attended by medical staff in a particular period in addition to coverage, communication and pedagogy etc.

* **Outcome parameters**: The outcome parameters could be in two different stages i.e., outcome stage 1 and outcome stage 2. In relation to evaluation of training efficacy of medical employees the outcome stage 1 may include in it the improvement in the performances of trainees through skill and knowledge upgradation and the stage 2 may entail in it the alterations in patient health status (mortality and morbidity rates for example) which are subject to neutralization of other factors at work.

**2.2.2 Advancement of work done in relation to the evaluation of training programs for medical staff/personnel**

Relevant published materials on evaluation of training programs for medical staff are scarcely available. However some related studies are available, which were helpful in understanding the intricacies of evaluation of training programs for medical staff.

Dinesh Kumar et al (2009), concluded that interrupted training programs with a break in between was more effective than a continuous training program of long duration.
T. Montaser (2013), recommended that the training and mentoring go hand in hand and trainees should take part in the continuous evaluation process.

N. Baral et al. (2007), concluded that the teaching-learning methods, media, microteaching and evaluation techniques were useful in teaching-learning.

According to Hodges et al. (2001), the duration of the intervention, the degree of active participation of the learners, and the degree of integration of new learning into the learners' clinical context are the three most important variables that determine the effectiveness of an educational intervention.

The characteristics of trainers in terms of their years of experience in training and fieldwork is directly related to improving the outcome of the training process. (Abuzeid et al, 1998).

When evidence from randomized trials is not available, or is difficult to generalize, observational and interventional studies like this one provide useful information, but must be carefully interpreted. (Buerkens et al, 2004).

Developing countries have limited resources, so it is particularly important to invest in health care that works and is sustainable in a long-term. (Garner, P et al, 1998).

Budosan et al. (2009) confirmed the hypothesis that longer mental health training of PHC workers spread out over time and combined with supervision would result in change of their clinical practices.
Wang et al (2008) emphasised on the positive shifts in knowledge and attitudinal/behavioural intentions for public health staff in improving the capability of emergency preparedness.

Lawrence et al (2006) concluded that the training intervention was effective for increasing cognitive knowledge, but was less effective at improving overall attitudes. This evaluation provided insights into the effectiveness of training interventions on the radiation safety knowledge and attitude of oncology nurses.

Health research unit, Ghana health services, (2005) evaluated the feasibility of an alternative method, i.e, SPL or self paced learning and concluded that it was not fully better than traditional training in terms of outcomes and cost effectiveness.

Rao et al (2012,) concluded training was effective but repeated in service training was needed to maintain the levels of improvement.

Hsu et al (2004), concluded that technology based education strategies were effective, such as computer simulation, video conferencing and video demonstrations.

The health foundation, (2012) found out that printed educational materials and lectures/conferences had limited effects on knowledge, reminders/prompts had mixed effect on behaviour, audit/feedback had mixed effect on knowledge and behaviour, interactive seminars and small groups and including practical components are more effective in changing behaviours.