

Block

# 2

## **Training Needs Assessment**

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### **UNIT 1**

#### **Training Needs Assessment – An Overview** **5**

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### **UNIT 2**

#### **Training Needs Assessment Methods** **22**

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## BLOCK 2 TRAINING NEEDS ASSESSMENT

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Block 2 **Training Needs Assessment** consists of two units covering the following contents.

Unit -1 **Training Needs Assessment: An Overview** discusses the concept of training needs assessment with its meaning, scope and matrix of training needs assessment. Later the four approaches in training need analysis viz., performance analysis, task analysis, competency study and training needs survey are presented. In the next section the rational and empirical methods of data collection that are used in identifying training needs are discussed. In the last part, the information and skills needed in training need analysis are covered.

Unit -2 **Training Needs Assessment Methods** explains the meaning and concept of task analysis and competency mapping. It also discussed how to identify training needs through task analysis and competency mapping approaches.







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# UNIT 1 TRAINING NEEDS ASSESSMENT - AN OVERVIEW

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## Structure

- 1.1 Introduction
- 1.2 Concept of Training Needs Assessment
- 1.3 Scope and Matrix of Training Needs Assessment
  - 1.3.1 Scope of Training Needs Assessment
  - 1.3.2 Identifying Contextual Changes
  - 1.3.3 Identification of Training Needs
- 1.4 Approaches in Training Need Analysis
  - 1.4.1 Performance Analysis
  - 1.4.2 Task Analysis
  - 1.4.3 Competency Study
  - 1.4.4 Training Needs Survey
- 1.5 Data Collection Methods in Identifying Training Needs
  - 1.5.1 Rational Methods
  - 1.5.2 Empirical Methods
- 1.6 Information and Skills Needed in Training Need Analysis
  - 1.6.1 Information
  - 1.6.2 Skills
- 1.7 Let Us Sum Up
- 1.8 Keywords
- 1.9 References and Selected Readings
- 1.10 Check Your Progress: Possible Answers

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## 1.1 INTRODUCTION

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Dear Learner,

In the previous block, we discussed the concept of training, approaches and strategies of training, planning and organisation of training and how to conduct an effective training. We understood from the discussion in previous block that, training needs assessment helps to define a target group's learning needs and validate project management's view on what training may be required for the planned developmental activities.

In 'MDV-105: Development Planning and Management', we discussed the concept of needs assessment in the context of development programme planning. However the focus of this unit is on training needs assessment in order to build the capacities of development professionals.

After studying this unit you should be able to

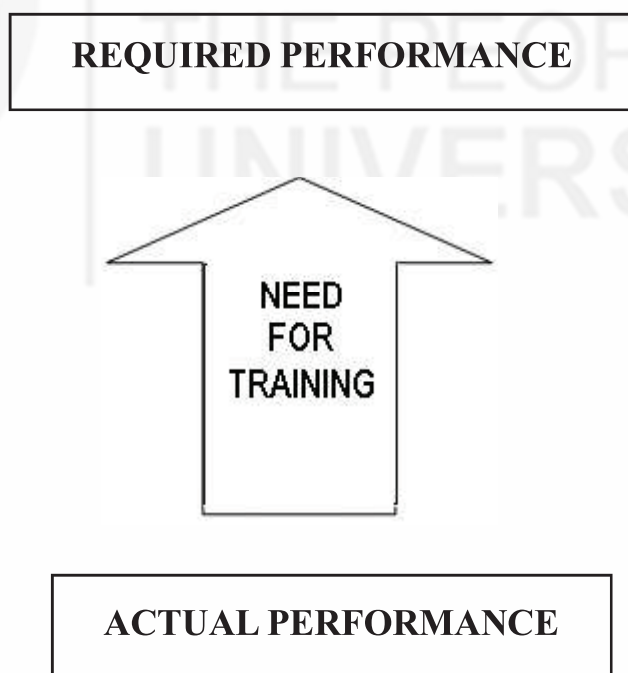
- Explain the meaning and scope of training needs assessment
- Discuss the approaches and data collection methods in training need assessment.

## 1.2 CONCEPT OF TRAINING NEEDS ASSESSMENT

In 1987, Butler and Butler reported that there are different levels of people involved in development process, each of them with diverse interests and goals, that it makes the task of need assessment complex and vitally important. Various experts defined training needs in different ways. Some of them are presented here for your understanding.

- Training need is the discrepancy between what is and what ought to be. Once identified, needs are placed in order of priority - Alkin.
- Training needs assessment is "the systematic identification of the needs and problems of a specific target group" - Smith et.al.
- Training needs assessment is the systematic effort that we make to gather opinions and ideas from a variety of sources on performance problems or new systems and technologies - Allison Rossett
- Identification of training needs is the method of determining if a training need exists and if it does, what training is required to fill the gap - T. Deb.
- The need is not a want or desire. A need is defined as a gap that exists between 'what is' and 'what should be' - Ohio State University School of Public Health.

From all of these definitions, it can be concluded that identification of training needs is the difference between actual performance and required performance. In other words, what an organization wants and what the employee has. It is represented in the figure below for your easy comprehension.



Therefore, training needs assessment basic purpose is to identify these gaps and determine if the problem can be solved by training.

### Activity 1

Discuss with your colleagues / friends about the meaning of training needs assessment and its purpose. Compare their views with those given in the above section and write your observations.

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### Check Your Progress 1

**Note:** a) Write your answer in about 50 words.

b) Check your answer with possible answers given at the end of the unit

1) What do you mean by training needs assessment?

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2) Write the basic purpose of training needs assessment?

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## 1.3 SCOPE AND MATRIX OF TRAINING NEEDS ASSESSMENT

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Developmental activities are undertaken after careful planning, assessment of developmental needs and stakeholders' analysis. In order to implement these planned activities in a desired direction, training of development functionaries as per identified needs is desirable.

P.K. Pani (2015) opined that often training in organizations takes place without people necessarily thinking of it as training. The individuals become aware of learning gaps that need filling or opportunities for self development through:

- Interest
- Curiosity
- Ambition
- Having to cope

People take advantage of self development opportunities without official direction. They watch others, try to imitate, learn over experience from mistake, seek advice or get hold of information. All these informal development opportunities can cause the individual to realise that their skills, knowledge are in some way deficient and needs improvement. In the absence of formal training processes, most of the learning in organizations is achieved informally, often on the job. P.K. Pani (2015) stressed that training must be a more formal process, directed towards a practical and performance related objective. In order to be effective, it must be deliberately planned and structured intervention. Its effectiveness increases if it involves proper assessment of training needs in a systematic way.

Training needs assessment of individuals, groups and organization as a whole in the context of development need to consider the following:

- Macro and micro level priorities of different development sectors
- Use and application of technologies in development
- Competencies required – both technical and soft skill competencies
- Multi-tasking development activities vis-à-vis capacity building

### 1.3.1 Scope of Training Needs Assessment

P.K. Pani (2015) suggested scope of training needs under three categories:

- i) *At the level of all individuals:* Some training needs cover everyone in the organization. Similarly every individual has to learn, unlearn and relearn skills to work in different contexts.

*Example:* Soft skills or process competencies like communication skills.

- ii) *Specific groups in an organization:* It relates to specific groups of development professionals within an organization, although it is less wide in scope. This is applicable for a particular unit, department or section within the organization.

*Example 1:* Monitoring & evaluation skills in Planning, Monitoring and Evaluation section

*Example 2:* Planning development work by Corporate Social Responsibility unit

- iii) *Particular individual in an organization:* This category relates to particular individuals, which are person specific training needs.

*Example 1:* Preparing a development functionary for environment impact

assessment work.

*Example 2:* Remedial training when work performance is not up to the standards.

*Example 3:* Technology updating training.

### 1.3.2 Identifying Contextual Changes

Training needs are to be identified due to the following three contextual changes that occur in organizations.

- i) *Job changes:* Retraining for entirely new development work in order to be flexible and responsive to change
- ii) *Person changes:* Applicable to individual changing jobs or preparing for future changes in their work. It is a sort of re-induction training needs assessment.
- iii) *Performance deficiencies:* These are the indicators of learning needs which result from shortfalls in work performance.

The training needs matrix given below provide a outline of training needs identification vis-à-vis to whom does the need apply – individual, group or organization as a whole.

| Training Needs Matrix                                                                                                    |                             |                                              |                         |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------|-------------------------|
| Why Does the Training Need Occur?                                                                                        | To whom does the need apply |                                              |                         |
|                                                                                                                          | Specific individual         | Specific groups of development functionaries | Organization as a whole |
| Job Changes ·<br>Technology·<br>Methods·<br>Organizational changes etc.                                                  |                             |                                              |                         |
| People changes<br>Young professionals<br>Seniors on transfer/<br>promotion<br>Career development<br>Personal development |                             |                                              |                         |
| Performance deficiencies<br>Technical skills<br>Soft skills<br>Managerial skills                                         |                             |                                              |                         |

Source : P.K. Pani (2015)

### 1.3.3 Identification of Training Needs

The matrix given above helps in identification of training needs by various methods as under:

- i) *Needs identification by development managers:* This is identification of training needs by top management in the organization as per policy, current and future work plans, deficiencies identified etc. It should not take place at a late stage in planning cycle. It is important to be watchful and able to identify training needs well in advance by development managers / human resource department in the organization.
- ii) *Self assessment by individuals:* This is based on self appraisal and identification of deficiencies by individual development professionals working in the organization.
- iii) *Systemic investigation:* Careful development managers or self assessment by individuals also may not be able to identify training needs in some situations. A systematic assessment of training needs through training audits, need identification surveys, job / task analysis, competency mapping etc may help in identifying the gaps.
- iv) *Structured assessment:* Organizations training policies, staff appraisals, systems and procedures also help in identifying training needs in a structured way.
- v) *Peer review:* External peer review of current work and future plans of the development organization help in identifying training needs. This may happen sometimes as a hidden objective. This will be effective if the management consider seriously the opinions of individuals.

#### Activity 2

Visit a nearby training institution and discuss with the faculty about the scope of training needs assessment. Compare their views with those given in the above section and write your observations on the following:

- a) Scope of Training Needs Assessment at Individual Level:

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- b) Scope of Training Needs Assessment for Specific Groups in Organization:

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- c) Scope of Training Needs Assessment for Organization:

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**Note:** a) Write your answer in about 50 words.

b) Check your answer with possible answers given at the end of the unit

- 1) Write the contextual changes that need to be considered in assessing training needs.

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- 2) Name the various ways to identify training needs in a development organization.

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After this introduction on scope and matrix of training needs assessment, let us discuss the concept and various approaches of training needs assessment in detail in the following sections.

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## **1.4 APPROACHES IN TRAINING NEED ANALYSIS**

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Four major approaches for identification of training needs have been proposed by different authors. A brief description of each approach is given below (Rummler, 1987).

### **1.4.1 Performance Analysis**

This approach deals with determination of the performance context of the training. For example, the development manager in charge of human resource development has to find the answer to the question like ‘what training will improve the job performance of village level development workers (VLWs)’? To find the answer to this question, one has to understand how the VLWs affect the performance of a development organization at the village level and study their job performance. The elements of job performance of VLWs and the methods to improve them have to be worked out. Data has to be gathered through methods like interview, observation, and case studies to answer the following questions:



- i) What is the actual job performance of VLWs ?
- ii) What is the expected job performance of VLWs?
- iii) What is the gap between actual and expected job performance of VLWs?
- iv) What are the reasons for gap in job performance?
- v) To what extent can training bridge the gap in job performance?

Based on the findings, we can design training programmes to improve the performance.

#### **Advantages of performance analysis**

- i) Through this method one can link between knowledge and skill requirements with job performance.
- ii) One can prioritize training needs and evaluate the impact of training needs on job performance.

#### **Disadvantages of performance analysis**

- i) It is costly, takes time, and requires skill.

### **1.4.2 Task Analysis**

Task analysis is an effective and widely used approach for determining training needs. The training given through this method must be linked to training needs and task performance. In this approach, the development manager in charge of human resource development has to find an answer to the question ‘What training do the VLWs require?’. Since the training has to be based upon the job/task performance of the VLWs, there is a need to analyze their tasks. Therefore, this approach requires a detailed analysis of tasks performed by different individuals. The data has to be collected through methods like interviews, case study, and observation methods.

#### **Advantages of task Analysis**

- i) A clear-cut identification of tasks, knowledge, and skills needed to perform various tasks.
- ii) The impact of training can be linked to the performance of the task, which will be related to the overall productivity of the employees.

#### **Disadvantages of task analysis**

- i) It is a time consuming and costly method.
- ii) This approach does not take into account other factors related to job performance in an environment.

### **1.4.3 Competency Study**

Training needs assessment through a competency study is now a preferred method. In this approach, the development manager in charge of human resource development has to find an answer to the question, ‘what are the different qualities needed for an efficient VLW, and how do we train the VLW in these competencies?’ The help of experts will be sought in identifying competencies.



Therefore, data collection to identify training need in this approach will involve discussion with experts.

### **Advantages of competency studies**

- i) This method is relatively inexpensive and fast.

### **Disadvantages of competency studies**

- i) Sometimes, it will not be possible to relate the competencies and skill requirements with job output and organizational performance.

## **1.4.4 Training Needs Survey**

The identification of training needs with surveys is frequently used. Training needs are assessed based upon the opinion of those who are being interviewed. Hence, the development manager in charge of human resource has to find answer to the question, ‘what training is needed for VLWs?’ The opinion of VLWs, supervisors, or clients will be sought to identify training needs. Data will be collected through mailed questionnaire, interviews, as well as small group meetings.

### **Advantages of training need survey**

- i) This method is fast and inexpensive.
- ii) A large number of people can participate in identifying training needs.

### **Disadvantages of training need survey**

- i) The results of analysis may lack precision as they are based upon the opinions of respondents.

In this section you read about four major approaches of training need analysis such as performance analysis, task analysis, competency study and training needs survey. Now, answer the questions given in Check Your Progress.

### **Check Your Progress 3**

**Note:** a) Write your answer in about 50 words.

- b) Check your answer with possible answers given at the end of the unit

- 1) What are the advantages and disadvantages of task analysis?

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A detail of phases of task analysis and competency assessment are given in the next unit in a comprehensive way.

## 1.5 DATA COLLECTION METHODS IN IDENTIFYING TRAINING NEEDS

Singh (1996) has classified different data collection methods that are used to identify training needs into two broad categories namely:

- Rational methods
- Empirical methods

The rational methods are those, while appearing to be logical as a way of determining the training needs, do not necessarily involve the collection of factual data by objective means. On the other hand, the empirical method involves the collection of data by objective means. The methods falling under each category are listed below for your comprehension.

### 1.5.1 Rational Methods

- i) **Observation:** Training needs is based on observation made by specialists or experts from normal organizational life.
- ii) **Informal Talks:** Clues and indications gathered through informal talks are used to identify training needs.
- iii) **Complaints:** Formal and informal complaints give an idea of the performance problems where training is indicated.
- iv) **Comparison:** On the basis of fixed performance criteria of effectiveness, comparison and judgments are made between two groups. The differences between the two groups form the basis for training needs.
- v) **Analysis of Reports:** Annual performance records become the basis in deciding training needs.
- vi) **Opinion Poll:** Potential training areas can be identified by conducting opinion polls among the perspective clients of the training.
- vii) **Buzz Session:** By pooling suggestions expressed by the different buzz groups, one can identify training needs of a group of employees.
- viii) **Analysis of the new programme:** Identify the requirements that have been arising from the implementation of a new programme which indicate the areas of training.

### 1.5.2 Empirical Methods

- i) **Job Analysis:** Identifying and recording critical information about the functions and operations involved in the performance of a job, and analyzing the extent to which the tasks that are accomplished can be potential training needs.
- ii) **Performance Evaluation:** The performance of employees is evaluated and training needs are arrived at.
- iii) **Checklist or Questionnaire Method:** The training needs are assessed based upon the opinion of the employees, subordinate superiors and peers who respond to a well developed questionnaire or checklist.

- iv) **Tests:** Tests are developed to measure knowledge, skill, and the attitude of employees, and the test scores are used to identify training needs.
- v) **Critical Incident Technique:** Employees are asked to recall critical incidents in their career in the last one or two years when they found themselves practically ineffective in their job performance.
- vi) **Card Sort Method:** Cards containing potential training needs are provided to employees, who are asked to arrange these cards in the order of importance. Based on the sorting carried by a selected sample of employees, training needs are identified.
- vii) **Focus Group Discussion:** Focus group discussion can be held with prospective clients who will provide inputs for training programme.
- viii) **Interview:** The training organizer can conduct interviews to identifying training needs.
- ix) **SWOT Analysis:** The employees list out their strengths, weaknesses, opportunities, and threats regarding their job. Training objectives are designed to maximize their strengths and opportunities; and to minimize their weaknesses and threats (Please refer MDV-105, Block 3, Unit 1 for detailed discussion on SWOT Analysis).

### Activity 3:

Visit a nearby training institution and discuss with the faculty about rational and empirical methods that they are using for data collection in training needs assessment. Compare their views with those given in the above section and write your observations:

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## 1.6 INFORMATION AND SKILLS NEEDED IN TRAINING NEED ANALYSIS

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The information and skills required for training need analysis are discussed below.

### 1.6.1 Information

- i) Data about current performance
  - The current level of production and productivity
  - Work environment and personnel policies.

- ii) Information about developmental needs
  - New technologies which would replace the old
  - Government policies and initiatives.
- iii) The organization's plans, new proposed programmes, activities
  - Organisation's short term, medium term and long term planning.
  - Any proposed activities or on-going activities of the organisation.

### 1.6.2 Skills

- i) Process Skills
  - Process skills are related to setting goals, developing plans, reviewing, and evaluating the process of identifying training needs.
- ii) Relationship Skills
  - Relationship skills are needed to build and maintain helpful relationships with a group of people whose needs are being identified. This involves abilities related to supporting, listening, questioning and showing empathy.
- iii) Content Skills
  - Content skill deals with the capacity to collect, analyze, and interpret data as well as the ability to draw sensible implications from them.

### Check Your Progress 4

**Note:** a) Write your answer in about 50 words.

b) Check your answer with possible answers given at the end of the unit

- 1) Write the difference between rational and empirical methods of data collection.

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- 2) Name any four rational and empirical methods of data collection.

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## 1.7 LET US SUM UP

Training needs assessment helps to define a target group's learning needs and validate project management's view on what training may be required for the planned developmental activities. With this premise in mind we started this unit by discussing the concept of training needs assessment with its meaning, scope and matrix of training needs assessment. Later we discussed four approaches in training need analysis viz., performance analysis, task analysis, competency study and training needs survey. In the next section we discussed briefly the rational and empirical methods of data collection that are used in identifying training needs. In the last part of this unit we discussed the information and skills needed in training need analysis.

## 1.8 KEYWORDS

**Training Need:** It is the discrepancy between what is and what ought to be. Once identified, needs are placed in order of priority.

**Training Needs Assessment:** It is the systematic identification of the needs and problems of a specific target group.

**Performance Deficiencies:** These are the indicators of learning needs which result from shortfalls in work performance.

**Performance Analysis:** This approach deals with determination of the performance context of the training.

**Task Analysis:** It is a detailed analysis of tasks performed by different individuals.

**Competency Study:** It is a method to find out what are the different qualities needed for an efficient employee and how do we train them in the competencies.

**Training Needs Survey:** In this method, training needs are assessed based upon the opinion of those who are being interviewed.

**Rational Methods:** The rational methods are those, while appearing to be logical as a way of determining the training needs, do not necessarily involve the collection of factual data by objective means.

**Empirical Methods:** The empirical methods involve the collection of data by objective means. **Job Analysis:** Identifying and recording critical information about the functions and operations involved in the performance of a job, and analyzing the extent to which the tasks that are accomplished can be potential training needs.

**Critical Incident Technique:** It is a method to recall critical incidents in career in the last one or two years when employees found themselves practically ineffective in their job performance.

**Card Sort Method:** In this method, cards containing potential training needs are provided to employees, who are asked to arrange these cards in the order of importance. Based on the sorting carried by a selected sample of employees, training needs are identified.

**SWOT Analysis:** In this method, the employees list out their strengths, weaknesses, opportunities, and threats regarding their job. Training objectives are designed to maximize their strengths and opportunities; and to minimize their weaknesses and threats.

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AESA-Agricultural Extension in South Asia <http://www.aesanetwork.org/>

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## 1.10 CHECK YOUR PROGRESS: POSSIBLE ANSWERS

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### Check Your Progress 1

- 1) Training needs assessment is “the systematic identification of the needs and problems of a specific target group.
- 2) The training needs assessment basic purpose is to identify the gaps and determine if the problem can be solved by training.

### Check Your Progress 2

- 2) The contextual changes that need to be considered in assessing training needs include: job changes, person changes and performance deficiencies.



- 3) Various ways to identify training needs in a development organization are:
- Needs identification by development managers
  - Self assessment by individuals
  - Systemic investigation
  - Structured assessment
  - Peer review

### **Check Your Progress 3**

- 1) The advantages of task analysis are: A clear-cut identification of tasks, knowledge, and skills needed to perform various tasks and the impact of training can be linked to the performance of the task, which will be related to the overall productivity of the employees. The disadvantages of task analysis are: Time consuming and costly method and this approach does not take into account other factors related to job performance in an environment.

### **Check Your Progress 4**

- 1) The rational methods while appearing to be logical as a way of determining the training needs, do not necessarily involve the collection of factual data by objective means. On the other hand, the empirical method involves the collection of data by objective means. The methods falling under each category are listed below for your comprehension.
- 2) Rational methods includes : Observation; Informal Talks; Complaints; Comparison and Analysis of Reports etc. While the Empirical Methods includes: Job Analysis; Performance Evaluation; Checklist or Questionnaire Method; Tests ; Critical Incident Technique etc.

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## UNIT 2 TRAINING NEEDS ASSESSMENT METHODS

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### Structure

- 2.1 Introduction
- 2.2 Task Analysis
  - 2.2.1 Task Identification
  - 2.2.2 Task Analysis
  - 2.2.3 Skill Gap Analysis
- 2.3 Competency Mapping
  - 2.3.1 Meaning of Competency Mapping
  - 2.3.2 Steps in Competency Mapping
  - 2.3.3 Methods of Competency Mapping
- 2.4 Let Us Sum Up
- 2.5 Keywords
- 2.6 References and Selected Readings
- 2.7 Check Your Progress: Possible Answer

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### 2.1 INTRODUCTION

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Dear Learner,

Training needs assessment helps to define a target group's learning needs and validate what training may be required for the planned developmental activities. With this idea in mind we discussed in the previous unit the concept of training needs assessment, scope and matrix of training needs assessment, four approaches in training need analysis viz., performance analysis, task analysis, competency study and training needs survey, rational and empirical methods of data collection and information and skills needed in training need analysis.

In this unit, task analysis and competency mapping methods of training needs assessment are discussed with examples for your understanding.

After studying this unit you should be able to

- Explain the meaning of task analysis and competency mapping.
- Identify training needs through task analysis and competency mapping approaches.

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### 2.2 TASK ANALYSIS

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Task analysis is a systematic analysis of jobs to identify job contents, knowledge, skills and aptitudes required to perform the job. It is an effective and widely used approach for determining training needs in which training needs are linked to task performance.

### Task Analysis

A task analysis can help us to:

- Determine the learning goals and objectives;
- Define and describe in detail the tasks and sub-tasks that the employee will perform;
- Specify the knowledge type (declarative, structural, and procedural knowledge) that characterise a job or task;
- Select learning outcomes that are appropriate for training;
- Prioritise and sequence tasks;
- Determine learning activities and strategies that foster the required development;
- Select appropriate media and learning environments;
- Construct performance assessments and evaluation

(Source: Jonassen et al., 1999).

Identification of training needs through task analysis approach consists of the following phases:

- i) Task Identification
- ii) Task Analysis
- iii) Gap Analysis

#### 2.2.1 Task Identification

Task identification or job analysis refers to dividing a major work event into its component parts, which allows a trainer to understand what an individual does in the course of his / her work. Associated activities required to be accomplished for task identification are narrated below.

- i) Assumptions in Task Identification
  - a) A problem is nothing but a gap between desired performance and actual performance.
  - b) Not all discrepancies between desired and actual behaviour are remedied by designing and delivering a training programme. For example, the problem could be due to poor organizational policies or environment.
  - c) The need identification process helps the trainer to distinguish training and non-training problems with their causes, and then, to design training, matching to training problems.
- ii) Methods in Task Identification

Commonly used methods for task identification are:

- Interview
- Questionnaire
- Case study, and
- Observation method.

## iii) Steps in Task Identification

The steps involved in task identification are:

- a) Identify and define the job or major work event for analysis. Job analysis may not always involve an analysis of the entire job, but, often a limited area of a job.
- b) Prepare a list of all the tasks involved in it using any of the following methods:
  - Seeking expert help
  - Use of techniques like observation and interview
  - Meeting and group discussion
  - Case method.
- c) Verify the identified tasks with the help of experts, supervisors and a selected group of employees.
- d) Make the final list of tasks.
- e) Determine the frequency of performance of each task using the following rating:

| Frequency    | Scores |
|--------------|--------|
| Rarely       | 1      |
| Occasionally | 2      |
| Fortnightly  | 3      |
| Weekly       | 4      |
| Daily        | 5      |

- f) Work out the relative importance of each task based upon the following rating:

| Importance           | Scores |
|----------------------|--------|
| Slightly important   | 1      |
| Moderately important | 2      |
| Highly important     | 3      |

- g) Find out the extent of difficulty in learning a task based upon the following rating:

| Importance     | Scores |
|----------------|--------|
| Easy           | 1      |
| Difficult      | 2      |
| Very difficult | 3      |

- h) Work out the total score for each task by adding the scores for frequency, relative importance, and extent of difficulty in learning. The priority areas for training can be identified based upon the total score for each

task. A sample Task Identification Worksheet for Village Level development Worker (VLW) is given in Table-1.

- i) Recheck the findings with a selected group of experts or leaders in the field.

**Table 1: Task Identification Worksheet for VLW**

| Sl. No. | Tasks                                                        | Frequency of performance | Relative importance | Learning difficulty | Total score | Priority |
|---------|--------------------------------------------------------------|--------------------------|---------------------|---------------------|-------------|----------|
| 1)      | Laying out demonstration in farmers' field                   | 2                        | 3                   | 2                   | 7           |          |
| 2)      | Visit to farmers' fields to solve technical problems         | 5                        | 3                   | 2                   | 10          | I        |
| 3)      | Group discussion with farmers                                | 3                        | 3                   | 1                   | 7           |          |
| 4)      | Writing leaflets in local language                           | 2                        | 3                   | 3                   | 8           | III      |
| 5)      | Writing progress report                                      | 3                        | 2                   | 1                   | 6           |          |
| 6)      | Giving lectures to farmers                                   | 1                        | 2                   | 2                   | 5           |          |
| 7)      | Attending training programme to update knowledge             | 3                        | 3                   | 1                   | 7           |          |
| 8)      | Preparation of visuals for communication of farm information | 3                        | 3                   | 3                   | 9           | II       |

### 2.2.2 Task Analysis

Task analysis is a process by which one can know the different elements or sub-tasks involved in every task. It is also used to find out specific elements of the task that are critical for its performance. According to Wentling (1993), the important difference between task identification and task analysis is that the former helps us to identify major blocks of contents to include in training, while the latter helps us to understand what comprises an individual block.

Various steps involved in task analysis are described below:

- i) Make available several blank task analysis worksheets.
- ii) Use one task analysis worksheets for every task identified and write down the name of the identified task on the corner of task analysis work sheet.
- iii) List all elements (or sub-tasks) of each task on its respective task analysis worksheet.

- iv) Determine the frequency of performance of each task component using the following rating.

| Frequency      | Scores |
|----------------|--------|
| • Rarely       | 1      |
| • Occasionally | 2      |
| • Fortnightly  | 3      |
| • Weekly       | 4      |
| • Daily        | 5      |

- v) Work out the relative importance of each task based upon the following rating:

| Importance             | Scores |
|------------------------|--------|
| • Slightly important   | 1      |
| • Moderately important | 2      |
| • Highly important     | 3      |

- vi) Find out the extent of difficulty in learning the task component using following rating :

| Importance         | Scores |
|--------------------|--------|
| • Easy             | 1      |
| • Difficult        | 2      |
| • Highly difficult | 3      |

- vii) Work out the total score for each task component and identify priority components. A sample Task Analysis Worksheet for VLW can be seen in Table 2.

- viii) Recheck the findings with a selected group of experts or leaders in the field.

Table-2: Task Analysis Worksheet for VLW

Task: Visit to farmers' field to solve technical problems

| Sl. No. | Tasks                                                                  | Frequency of performance | Relative importance | Learning difficulty | Total score | Priority |
|---------|------------------------------------------------------------------------|--------------------------|---------------------|---------------------|-------------|----------|
| 1)      | Establishing rapport with the farmers                                  | 2                        | 2                   | 2                   | 6           | I        |
| 2)      | Knowledge of local farming system                                      | 3                        | 2                   | 2                   | 7           | III      |
| 3)      | Skill in identification of pest & disease and knowledge about improved | 4                        | 3                   | 3                   | 10          | II       |

|    |                                                                             |   |   |   |   |     |
|----|-----------------------------------------------------------------------------|---|---|---|---|-----|
|    | techniques to control them                                                  |   |   |   |   |     |
| 4) | Skill in identification of problems related to soil health and the remedies | 3 | 2 | 3 | 8 | III |
| 5) | Knowledge and skill related to nutrient requirements of different crops     | 4 | 2 | 3 | 9 | II  |
| 6) | Knowledge and skill related to processing of harvested produce              | 2 | 2 | 2 | 6 |     |
| 7) | Knowledge of Market information                                             | 3 | 2 | 2 | 7 |     |
| 8) | Knowledge about Farm input information                                      | 2 | 2 | 1 | 5 |     |
| 9) | Contact with subject matter specialist and experts                          | 1 | 2 | 1 | 4 |     |

### 2.2.3 Skill Gap Analysis

According to Halim and Ali, the skill-gap analysis is a process of determining the training needs of individual employees in relation to the important tasks-steps or components of tasks identified for training. It determines how skilled or proficient individual employees are on these task-steps or components, how many individuals differ from desired performance and whether or not they need training. The steps used in skill gap analysis are as follows.

- Prepare a priority list of the tasks, components or steps identified for training from the tasks analysis worksheet.
- List the components that were identified on the skill-gap analysis worksheet.
- Rate each component in terms of trainee's current level of proficiency to perform it on a point continuum.

| Frequency                                        | Scores |
|--------------------------------------------------|--------|
| • Can not do any part of the task.               | 1      |
| • Can do less than 50 per cent of the task       | 2      |
| • Can complete more than 50 per cent of the task | 3      |
| • Can do the entire task                         | 4      |
| • Can do the task within the set time.           | 5      |



- iv) Summarize individual responses by adding up the total score for each item and dividing by the number of different forms that were completed, to find out the average proficiency scale.
- v) Identify the components where proficiency is the highest, and where it is the lowest.
- vi) Review the proficiency ratings and check those tasks that appear to have low proficiency.
- vii) Decide whether the gap can be decreased or removed through training.
- viii) Discuss the results of the skill-gap analysis with key personnel working in the area and finalize the curriculum. A sample of Skill-gap Analysis Worksheet for VLW has been provided in Table-3.

Table-3: Skill Gap Analysis Worksheet for VLW  
Task: Visit to farmers' field to solve technical problems

| Sl. No. | Components of task                                                                                     | Extent of proficiency | Whether proficiency a problem | Can the problems be solved by training? |
|---------|--------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------|-----------------------------------------|
| 1)      | Skill in identification of pests and diseases and knowledge about improved techniques to control them. | (1) 2 3 4 5           | Yes                           | Yes                                     |
| 2)      | Knowledge and skill related to nutrient requirements of different crops                                | 1 (2) 3 4 5           | Yes                           | Yes                                     |
| 3)      | Skill in identification of problems related to soil health and their remedial measures.                | 1 (2) 3 4 5           | Yes                           | Yes                                     |
| 4)      | Knowledge of local training system                                                                     | 1 (2) 3 4 5           | Yes                           | Yes                                     |
| 5)      | Knowledge of market information.                                                                       | 1 2 3 (4) 5           | No                            | —                                       |
| 6)      | Knowledge and skill related to processing of harvested produce                                         | (1) 2 3 4 5           | Yes                           | Yes                                     |
| 7)      | Establishing rapport with the farmers                                                                  | 1 2 3 (4) 5           | No                            | —                                       |
| 8)      | Knowledge about farm inputs                                                                            | 1 2 3 (4) 5           | No                            | —                                       |
| 9)      | Contact with subject matter specialists.                                                               | 1 2 3 (4) 5           | No                            | —                                       |

|    |                                                                        |             |     |     |
|----|------------------------------------------------------------------------|-------------|-----|-----|
| 10 | Overall skill in visiting farmers' fields to solve technical problems. | (1) 2 3 4 5 | Yes | Yes |
|----|------------------------------------------------------------------------|-------------|-----|-----|

In this session, you have studied task analysis as one of the important components of training needs assessment. Now, answer the following questions given in Check Your Progress 1.

### Check Your Progress 1

**Note:** a) Write your answer in about 50 words.

b) Check your answer with possible answers given at the end of the unit

1) Write the meaning of Task Analysis.

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2) Name the three major phases in identification of training needs through task analysis approach.

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3) What is the major difference between task identification and task analysis?

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## 2.3 COMPETENCY MAPPING

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Competency mapping is an effective methodology to incorporate the competencies throughout the various processes and to assess the training needs of the organization. It is the most systematic and scientific method of training needs assessment, wherein, the starting point is to understand the job requirements. Thereafter, measuring the competency levels of the employees, the gaps can be identified between the competencies desired and current state of competencies.

### 2.3.1 Meaning of Competency Mapping

David McClelland (1973) proposed the concept of competencies that are required for effective job performance. He argued that being knowledgeable and/or intelligent only does not indicate that a person is an effective and efficient worker - a worker's performance is a function of his/her knowledge plus skills and attitudes. One should not be judged solely on how knowledgeable they are in their technical subject area of expertise but on how skilful and able they are in delivering services to their clients.

Skill is the ability to perform the job and competency is the requirements of skill set for that particular job. In other words, skills are specific activities, and competence is the ability to carry out an activity effectively, safely, and efficiently. The most critical competencies are those that relate to skills that a development worker is expected to perform. It should also be noted that core competency needs are contextual, and development workers' contexts affect their competency needs and competency levels.

Following are view points of different authors on competencies and competency mapping:

Competencies are the underlying characteristic of an individual, which are causally related to effective job performance - Boyatzis (1982).

Competencies are personal characteristic that contribute to effective managerial performance - Albanese (1989)

Competence is a concept that integrates knowledge, skills and attitudes, the application of which enables the professional to perform effectively, and to respond to contingencies, change, and the unexpected - RCVS (2006).

Competence is the ability to perform the roles and tasks required by one's job to the expected standard - Eraut and Boulay (2000).

Core competencies as a collection of observable dimensions -individual skills, knowledge, attitudes, behaviors, and collective processes and capabilities - necessary for individual, organizational and programme success - Athey and Orth (1999).

A competency is a standard performance of a skill at a predetermined level of performance -Welsh et al., (2009).

Competency Mapping is a process of identifying key competencies for a development organization and the jobs and functions within it.

### 2.3.2 Steps in Competency Mapping

Sulthana and Madhavaiah (2017) suggested three steps in Competency Mapping:

- First: A job analysis is carried out by asking employees to fill in a questionnaire that asks them to describe what they are doing, and what skills, attitudes and abilities they need to have to perform it well.
- Second: Having discovered the similarities in the questionnaires, a competency-based job description is crafted.
- Third: Having agreed on the job requirements and the skills and attitudes needed to progress within it and become more productive; one starts mapping the capability of the employees to the benchmarks. It helps in determining the training and development needs.

### 2.3.3 Methods of Competency Mapping

Common competency mapping methods / approaches suggested by Shari Parsons Miller (2018) are:

- Assessment center
- Critical incidents technique
- Interviewing
- Questionnaires and
- Psychometric tests.

Let us discuss them briefly hereunder (Shari Parsons Miller,2018).

#### Assessment Center

In the assessment center methodology the demands of the job, performance and training needs are mapped in relation to specific job attributes by situational observations, various types of discussions and simulation exercises. The employees are asked to work through certain situations and their behaviour is observed. Finally the current and future requirements of the job needs are assessed by mapping them with skills and aptitude of the employees.

#### Critical Incidents Technique

In critical incident technique, the data about critical events viz., very good performance or complete failures are collected along with possible reasons through interviews or questionnaires as soon as the job is performed. The incidents are then categorized according to associated job behaviours to reveal patterns of performance gaps, strengths and finally mapped with the training needs.

#### Personal Interviews

The behaviour of employees is judged with targeted interview questions related to concrete job experiences, general motivation, disposition and outlook. The responses of the interview are compared against the competency map created for the job to determine which employee offers the best match for the organization's needs.

## Questionnaires

Job competencies and work performance are assessed by questionnaire method. The data collected through questionnaires includes:

- Work requirements and activities
- Functional job analysis that describes job duties and characteristics
- Occupational analysis inventory that specifies work elements for almost all occupations
- Position analysis that ties job characteristics to human characteristics, and
- Work profiling system that measures ability and personality attributes.

The multipurpose occupational system analysis inventory collected through questionnaires highlights tasks and competencies for jobs.

## Psychometric Tests

The behavioural attributes can be quantified through psychometric testing. The most commonly used psychometric assessment tests are:

- Aptitude tests
- Achievement tests.

Aptitude tests identify natural liking in a specific job area, and are designed to help predict how well a person would perform in a given job after being provided with training. Achievement tests measure the level of proficiency achieved in a certain job area after training.

## Check Your Progress 2

**Note:** a) Write your answer in about 50 words.

b) Check your answer with possible answers given at the end of the unit

1) Write the meaning of competency mapping.

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2) Name the three steps in competency mapping.

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3) Write the methods of competency mapping.

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4) How the behavioural attributes can be quantified in competency mapping?

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## 2.4 LET US SUM UP

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In this unit, task analysis and competency mapping methods of training needs assessment are discussed with examples for your understanding. Task analysis is a systematic analysis of jobs to identify job contents, knowledge, skills and aptitudes required to perform the job. A task analysis can help us to determine the learning goals and objectives by describing in detail the tasks and sub-tasks that the employee will perform. Identification of training needs through task analysis approach consists of three phases viz., task identification, task analysis and gap analysis. Commonly used methods for task identification are interview, questionnaire, case study, and observation methods. Competency mapping is a process of identifying key competencies for a development organization and the jobs and functions within it. The steps in competency mapping are job analysis, a competency-based job description and mapping the capability of the employees to the benchmarks. Common competency mapping approaches are assessment center, critical incidents technique, interviewing, questionnaires and psychometric tests.

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## 2.5 KEYWORDS

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**Assessment Center:** In the assessment center methodology the demands of the job, performance and training needs are mapped in relation to specific job attributes by situational observations, various types of discussions and simulation exercises.

**Competence:** It is a concept that integrates knowledge, skills and attitudes, the application of which enables the professional to perform effectively, and to respond to contingencies, change, and the unexpected.



**Competency Mapping:** Competency Mapping is a process of identifying key competencies for a development organization and the jobs and functions within it.

**Core Competencies:** They are a collection of observable dimensions -individual skills, knowledge, attitudes, behaviors, and collective processes and capabilities -necessary for individual, organizational and programme success.

**Critical Incidents Technique:** In critical incident technique, the data about critical events viz., very good performance or complete failures are collected along with possible reasons through interviews or questionnaires as soon as the job is performed. The incidents are then categorized according to associated job behaviours to reveal patterns of performance.

**Psychometric Tests:** The behavioural attributes can be quantified through psychometric testing. The most commonly used psychometric assessment tests are aptitude tests and achievement tests.

**Skill Gap Analysis:** Skill-gap analysis is a process of determining the training needs of individual employees in relation to the important tasks-steps or components of tasks identified for training. It determines how skilled or proficient individual employees are on these task-steps or components, how many individuals differ from desired performance and whether or not they need training.

**Task Analysis:** It is a systematic analysis of jobs to identify job contents, knowledge, skills and aptitudes required to perform the job. It is an effective and widely used approach for determining training needs in which training needs are linked to task performance.

**Task Identification:** Task identification or job analysis refers to dividing a major work event into its component parts, which allows a trainer to understand what an individual does in the course of his / her work.

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## **2.7 CHECK YOUR PROGRESS: POSSIBLE ANSWERS**

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### **Check Your Progress 1**

- 1) Task analysis is a process by which one can know the different elements or sub-tasks involved in every task. It is used to find out specific elements of the task that are critical for its performance.
- 2) The three major phases in identification of training needs through task analysis approach are
  - i) Task Identification
  - ii) Task Analysis
  - iii) Gap Analysis
- 3) The important difference between task identification and task analysis is that the former helps us to identify major blocks of contents to include in training, while the latter helps us to understand what comprises an individual block.

**Check Your Progress 2**

- 1) Competency mapping is a process of identifying key competencies for a development organization and the jobs and functions within it.
- 2) The three steps in competency mapping are:
  - A job analysis is carried out by asking employees to fill in a questionnaire that asks them to describe what they are doing, and what skills, attitudes and abilities they need to have to perform it well.
  - Having discovered the similarities in the questionnaires, a competency-based job description is crafted.
  - Having agreed on the job requirements and the skills and attitudes needed to progress within it and become more productive; one starts mapping the capability of the employees to the benchmarks. It helps in determining the training and development needs.
- 3) Common competency mapping methods / approaches are: Assessment center; Critical incidents technique; Interviewing; Questionnaires and; Psychometric tests.
- 4) For competency mapping, the behavioural attributes can be quantified through psychometric testing. The most commonly used psychometric assessment tests are aptitude tests and achievement tests.