
UNIT 1 NEED, CONCEPT AND CHARACTERISTICS OF EVALUATION

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1.1 INTRODUCTION

Evaluation is an important component of the teaching-learning process. It helps teachers and learners to improve teaching and learning. Evaluation is a continuous process not a periodic exercise. It helps in forming the values of judgement, educational status, or achievement of students. Evaluation in one form or the other is inevitable in teaching-learning, as in all fields of activity of education judgements need to be made. Hence, it is desirable that teachers must acquire knowledge and understanding about the various aspects of evaluation and its application in classrooms. Since we are confined to educational evaluation, at the very beginning let us provide you, with the major elements of the Teaching-Learning Process and the role of evaluation in the teaching-learning process. This unit will provide you with the need, importance, concept and characteristics of evaluation. Evaluation, measurement and assessment are also explained, in order to clarify distinction among these terms.

1.2 OBJECTIVES

After going through this unit, you will be able to:

- describe the teaching-learning process,
- analyse the role of evaluation in the teaching-learning process,
- explain the need and importance of evaluation,
- define and explain the concept of evaluation,
- list the characteristics of evaluation, and
- distinguish between evaluation, assessment and measurement.

1.3 TEACHING-LEARNING PROCESS AND EVALUATION

1.3.1 Teaching-Learning Process

The main purpose of classroom teaching is to influence pupil behaviour in the desired direction. The desired direction is guided by the educational objectives formulated by the school and the teacher. The teacher first of all, must be conscious of the goals and aims of education. More specifically, the teacher must formulate instructional objectives for various lessons and units in the systematized and rearranged syllabus in a subject of study. Secondly, the teacher should be in a position to construct effective learning experiences on the basis of student learning and the modes of effective communication channels. Finally, the teacher will determine the extent to which these objectives are being achieved. Hence, three major elements in the education process are objectives, learning experiences and learner appraisal. The simple representation of educational process is shown below:

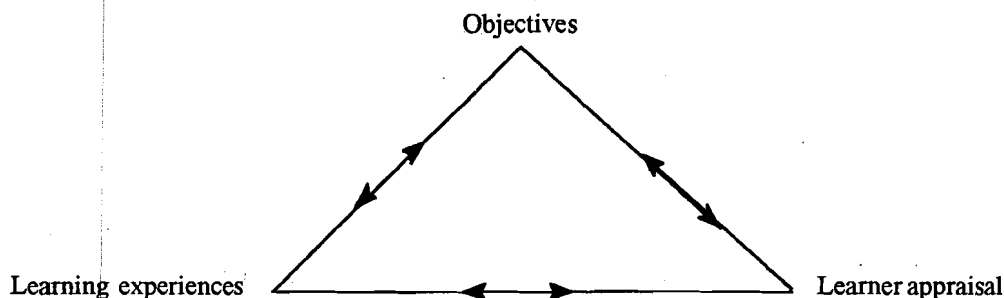


Fig. 1.1 : Representation of Educational Process

The above representation is a dynamic one and shows interaction among three major elements as shown by directional arrows. **Objectives** refer to one's intention of desired behaviour that learners should acquire. The term **learning experiences**, refers to those activities and experiences that the learners undergo in order to acquire the desired behaviours.

The teacher plays an important role in providing learning experiences. Learning experiences involve interaction of students and content with the help of a teacher. The teacher uses various teaching methods and techniques for providing learning experiences to the learner. These learning experiences lead to behavioural changes among learners. So, learning involves modification in the behaviour of a learner through learning experiences. In order that there may be an appreciable learning on the part of students, it is important that teaching must be effective. The teacher must provide situations for close interaction of students with content by using appropriate teaching methods and techniques. Hence effective teaching leads to successful learning experiences.

Besides teaching, the learning experiences can also be brought about through a number of ways such as the library, laboratory readings, radio, films, film strips, science clubs, field trips or such other learning situations in real life.

Learner appraisal is concerned with ascertaining the extent to which the objectives have been met.

The representation of the educational process shows the linking of each element with each of the other. Let us explain the linkage of three major elements of educational process. Beginning with objectives, the arrow pointing to learning experiences indicates that objectives serve as a guide for the selection or creation of learning experiences. For example, if a geometry course is aimed at developing deductive thinking abilities in learners, then learning experiences require work other than geometry content. This may include home assignment

to work on newspaper editorials, advertisements and also individual projects. The point is that the nature of one's objectives will be an important determinant of the learning experiences that constitute the operational programme. The arrow pointing from objectives to learner appraisal indicates that the primary focus of appraisal is on gathering evidence on the extent to which the objectives of the programme have been attained. Just as objectives provide specification for establishment of learning experiences, they also furnish specifications for learner appraisal. For example, the development of deductive thinking among students, might require in its appraisal of learning, the evidence regarding students' proficiency to apply deductive principles to the analysis of a variety of material in life situations, which may be outside the field of geometry.

Now, the arrow pointing from learning experiences to learner appraisal is indicative of the fact that learning experiences, provide examples for the development of appraisal tasks. The objectives that the students are engaged in, during the learning phase of the programme, should furnish ideas for appraisal situations. Thus, the arrow pointing from learning experiences to learner appraisal, indicates that learning experiences furnish ideas and suggestions for learner appraisal. The appraisal task may not be identical but contain an element of novelty for the learner.

The two arrows pointing from learner appraisal to objectives and to learning experiences are especially important. In the case of the former, the arrow signifies that appraisal procedures should furnish information about the extent to which the objectives are being attained. In addition, appraisal information can furnish valuable information that may result in the modification of some objectives and the elimination of others. The appraisal helps in providing a solution to the following questions:

- Should the objectives be modified or perhaps eliminated?
- Are the objectives realistic for the particular group of learners?
- Are the necessary references available for achieving the objectives?

The arrow-pointing from learner appraisal to learning experiences, is suggestive of two important notions. First, it provides information about the extent to which learning experiences appear to be working well. Hence appraisal procedure can suggest the modification or elimination of learning experiences. A second important idea suggested by the arrow pointing from appraisal to learning experiences is that tasks, experiences and problems developed by evaluation specialist may be suggestive of new learning experiences. The incorporation of moral and imaginative appraisal materials into the learning phase of a programme has contributed significantly to the improvement of learning experiences.

The last arrow, which points from learning experiences to objectives, denotes that learning activities can result in encounters involving teachers, learners and learning materials which in turn may suggest new objectives.

1.3.2 Role of Evaluation

Evaluation plays an enormous role in the teaching-learning process. In learning, it contributes to formulation of objectives, designing of learning experiences and assessment of learner performance. Besides this, it is very useful to bring improvement in teaching and curriculum. It provides accountability to the society, parents, and to the education system. Let us discuss its uses briefly.

- i) Teaching: Evaluation is concerned with assessing the effectiveness of teaching, teaching strategies, methods and techniques. It provides feedback to the teachers about their teaching and the learners about their learning.
- ii) Curriculum: The improvement in courses/curricula, texts and teaching materials is brought about with the help of evaluation.

- iii) Society: Evaluation provides accountability to society in terms of the demands and requirements of the employment market.
- iv) Parents: Evaluation mainly manifests itself in a perceived need for regular reporting to parents.

In brief, evaluation is a very important requirement for the education system. It fulfils various purposes in systems of education like quality control in education, selection/entrance to a higher grade or tertiary level. It also helps one to take decisions about success in specific future activities and provides guidance to further studies and occupation. Some of the educationists view evaluation virtually synonymous with what was previously defined as learner appraisal, but evaluation has an expanded role. It plays an effective role in questioning or challenging the objectives. This does not mean that one can loosely criticise programme objectives. One should question or challenge programme objectives only after careful study of the relationship between a programme's objectives and the need for which the programme was designed. Evaluation helps a lot in the design and modification of learning experiences on the basis of feedback received by learner appraisal. A simple representation explaining the role of evaluation in the teaching-learning process is shown below:

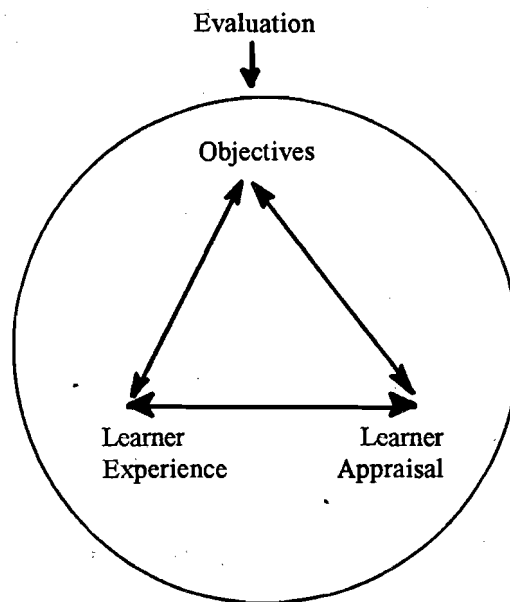


Fig. 1.2: Representation of the Role of Evaluation in the Teaching-Learning Process

Evaluation has as its province four different aspects namely, i) objectives, ii) learning experiences, iii) learner appraisal and the iv) relationship between the three.

Check Your Progress 1

- i) What are major elements of teaching-learning process?

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- ii) Define Learner appraisal.

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iii) Give four important aspects of evaluation.

a)

b)

c)

d)

1.4 NEED AND IMPORTANCE OF EVALUATION

Evaluation is inevitable in teaching-learning process. It is as inevitable in classroom teaching as it is in all fields of activity when judgements need to be made, however simple or complex the consideration involved. All of us are well aware, that during the course of a school day, teachers, principals and other school personnel make many decisions about students and help them to make many decisions for themselves. Effective decision making process involves evaluation. For example, the division of students into various categories, or ranks within the total group, involves measurement of their achievement and interpretation of these. The need of evaluation is so intrinsic to the teaching-learning situation that even hasty consideration seems to indicate the advantages of a systematic use of planned evaluation. Evaluation helps teachers to make better evaluative judgements. All of us are aware that we carry out activities in various aspects of teaching-learning process like:

- a) fulfil classroom objectives
- b) diagnose learning difficulties of students
- c) determine readiness for new learning experiences
- d) form students' classroom groups for special activities
- e) assist students in their problems of adjustment
- f) prepare reports of pupils' progress.

In all these activities, we cannot escape making evaluative judgements. Decisions must be made and action must be taken. The more accurately we judge our pupils, the more effective we will be in directing their learning. The understanding of the principles and procedures of evaluation is very much needed in making more intelligent decisions in directing pupils progress towards worthwhile educational goals.

Check Your Progress 2

- i) List two activities from classroom situations which involve decision making by the teacher

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- ii) List two important aspects related to the teaching process in which evaluation is needed.

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1.5 DEFINITION OF EVALUATION

Different authors have different notions of educational evaluation. These sometimes dissimilar views are due to the varied training and background of the writers in terms of their profession, concerned with different aspects of the education process. Perhaps the most extended definition of evaluation has been supplied by C.E. Beeby (1977), who described evaluation as "the systematic collection and interpretation of evidence leading as a part of process to a judgement of value with a view to action."

In this definition, there are the following four key elements:

- i) systematic collection of evidence
- ii) its interpretation
- iii) judgement of value
- iv) with a view to action

Let us discuss the importance of each element in defining evaluation. The first element 'systematic collection' implies that whatever information is gathered, should be acquired in a systematic and planned way with some degree of precision.

The second element in Beeby's definition, 'interpretation of evidence' is a critical aspect of the evaluation process. The mere collection of evidence does not by itself constitute evaluation work. The information gathered for the evaluation of an educational programme must be carefully interpreted. Sometimes, uninterpreted evidence is often presented to indicate the presence (or absence) of quality in an educational venture. For example, high dropout rates are frequently cited as indications of failure of educational programmes. However, these are indicators of failure in only some cases, not all. There may be good reasons for dropout of educational programmes like certain personal problems of finding good jobs. These reasons in no way reflect on the programme. In some cases, dropping out of an educational programme may indicate that the programme has been successful. For example, in a two year programme in computers, it was observed that almost two-third of each entering class failed to complete the two year programme. On closer examination it was found that most of the dropouts after one year were offered good jobs by companies. The supervisors of companies felt that the one year of training was not only more than adequate for entry and second level positions but provided the foundation for further advancement. Under such circumstances, the dropout rate before programme completion was no indication of a programme failure or deficiency.

The third element of Beeby's definition, judgement of value takes evaluation far beyond the level of mere description of what is happening in an educational enterprise, but requires judgements about the worth of an educational endeavour. Thus, evaluation not only involves gathering and interpreting information about how well an educational programme is succeeding in reaching its goals but judgements about the goals themselves. It involves questions about how well a programme is helping to meet larger educational goals.

The last element of Beeby's definition, "with a view to action", introduces the distinction between an undertaking that results in a judgement of value with no specific reference to action (conclusion-oriented) and one that is deliberately undertaken for the sake of future action (decision-oriented). Educational evaluation is clearly decision-oriented and is undertaken with the intention that some action will take place as a result. It is intended to lead to better policies and practices in education.

Check Your Progress 3

i) Write four elements involved in defining evaluation.

- a)
- b)
- c)
- d)

ii) What is conclusion-oriented judgement?

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iii) What is decision-oriented judgement?

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1.6 CHARACTERISTICS OF GOOD EVALUATION

Having defined evaluation, let us turn our attention to the basic features that should characterise a 'good' evaluation. Evaluation should, ideally, be valid, reliable, practicable, fair and useful. Let us now discuss these one by one.

Validity

A valid evaluation is one which actually tests what it sets out to test i.e., one which actually measures the behaviour described by the objective(s), under scrutiny. Obviously, no one would deliberately construct an evaluation item to test irrelevant material but very often non-valid test items are in fact used e.g. questions that are intended to test recall of factual material but which actually test the candidate's powers of reasoning, or questions which assume a level of pre-knowledge that the candidates do not necessarily possess.

We see that validity related problems are common weakness of many of the widely used test items. For example, a simple science question given to school children ('Name the products of the combustion of carbon in an adequate supply of oxygen') produces a much higher number of correct answers when the word combustion is replaced by 'burning'. This shows that the original question has problems of validity because it is to some extent, testing language and vocabulary skills other than the basic science involved.

Reliability

The reliability is a measure of the consistency with which the question, test or examination produces the same result under different but comparable conditions. A reliable evaluation item gives reproducible scores with similar populations of students. It is, therefore, independent of the characteristics of individual evaluators. This is often difficult to achieve in practice. It is obviously important to have reasonable reliable evaluation procedures when a large number of individual evaluators assess the same question (e.g. in Central Board Examination). A student answer which receives a score of 75 per cent from one marker and 35 per cent from another reveals a patently unreliable evaluation. Besides this Marker/Examiner reliability also plays its role in this phenomenon.

In order to maintain reliability, one evaluative question should test only one thing at a time and give the candidates no other option. The evaluation should also adequately reflect the objectives of the teaching unit. We may note that reliability and validity factors in an evaluation are not directly linked. For example, a test or examination may be totally reliable and yet have very low validity. Reliability and validity are closely related. A validity must be reliable i.e., validity includes reliability, but it may happen that a reliable test may not be valid, e.g., time given by various watches may be reliable but not valid.

Practicability

Evaluation procedure should be realistic, practical and efficient in terms of their cost, time taken and ease of application. It may be an **ideal** procedure of evaluation but may not be put into practice. This is not to be encouraged. For example, in practical examination of students, it may be convenient to assign different experiments instead of assigning one experiment to all students. By doing this, the problem of having various sets of apparatus for conducting one experiment can be avoided, but this may not be practicable.

Fairness

Evaluation must be fair to all students. This can be possible by accurate reflecting of range of expected behaviours as desired by the course objectives. To keep fairness in evaluation, it is also desired that students should know exactly how they are to be evaluated. This means that students should be provided information about evaluation such as nature of the materials on which they are to be examined (i.e., Context and Objectives), the form and structure of the examination, length of the examination and the value (in terms of marks) of each component of the course.

Usefulness

Evaluation should also be useful for students. Feedback from evaluation must be made available to the students and help them to prove their current strengths and weaknesses. By knowing their strength and weakness, students can think of further improvement. Evaluation should suggest all the needful requirements for their improvement. The requirements may be in terms of improvement in the content to be taught, teaching methods and style of learning. Hence, evaluation is very useful in diagnosing weakness and remedying them.

Check Your Progress 4

i) Write three characteristics of evaluation.

- a)
- b)
- c)

ii) Mention two aspects which help in maintaining fairness of evaluation.

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1.7 EVALUATION, ASSESSMENT AND MEASUREMENT

Evaluation, particularly educational evaluation, is a series of activities that are designed to measure the effectiveness of the teaching-learning system as a whole. We are already familiar with the fact that the teaching-learning process involves interaction of three major elements i.e., objectives, learning experiences and learner appraisal. Evaluation takes care of all the interactive aspects of three major elements i.e., the whole teaching-learning system. It can be put in the following simple form as suggested by Mary Thorpe (1980).

"Evaluation is the collection, analysis and interpretation of information about any aspect of a programme of education, as part of a recognised process of judging its effectiveness, its efficiency and any other outcomes it may have."

Need, Concept and Characteristics of Evaluation

The above definition offers the following:

- i) Evaluation is not just another word for assessment. The quality of our learners' learning may well be one of the outcomes we need to evaluate. But many other factors may be equally worth looking at.
- ii) 'Any other outcomes' reminds us that evaluation should be capable of picking up the unexpected e.g. unwanted side effects or interesting new possibilities.
- iii) 'By recognised process', it means that evaluation needs to be systematic, planned and openly discussed. It is not just keeping records or writing a final report.
- iv) It is a public commitment to purposeful enquiry. As we have already discussed, evaluation according to Beeby's definition is "the systematic collection and interpretation of evidence leading as a part of process to a judgement of value with a view to action." (Beeby, 1977).

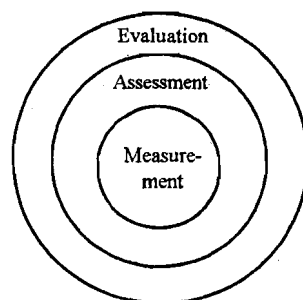
Assessment

By assessment, we mean the processes and instruments that are designed to measure the learner's achievement, when learners are engaged in an instructional programme of one sort or another. It is concerned with ascertaining the extent to which the objectives of the programme have been met. The term assessment is often used interchangeably with the terms evaluation and measurement. However, assessment has a narrower meaning than evaluation but a broader meaning than measurement. In its derivation, the word assess means "to sit beside" or "to assist the judge". It, therefore, seems appropriate in evaluation studies to limit the term assessment to the process of gathering the data and fashioning them into an interpretable form; judgement can then be made on the basis of this assessment. Let us take an example of testing of school children by Secondary Board. Tests are administered in reading, writing, science and other academic areas. Based on the information provided by the Secondary Board, educators, citizens and political leaders then make judgements about the effectiveness of the education system. Assessment then, as we define it, precedes the final decision making stage in evaluation e.g., the decision to continue, modify, or terminate an educational programme.

Measurement

It is mainly concerned with collection or gathering of data e.g. students' scores in an examination. It is an act or process of measuring physical properties of objects such as length and mass. Similarly, in behavioural sciences, it is concerned with measurement of psychological characteristics such as neuroticism, and attitudes towards various phenomena. The measurement involves assigning a score on a given task performed by the learner e.g., 33/50 i.e., thirty three out of fifty.

Thus, we find that evaluation involves assessment and measurement. It is a wider and more inclusive term than assessment and measurement. It can be represented as:



Hence evaluation process is quite comprehensive and it is very much desired for effective teaching and learning.

Let us explain the need and use of some of terms commonly used in the context of evaluation in our schools.

Examination

This term is used in schools to find out the growth of students in terms of their scholastic achievement. The examinations are conducted at different stages throughout the year. Let us briefly discuss them.

Semester, Half-yearly, Annual Examinations: In semester system, the assessment of the child is done after completion of courses meant for one semester. The academic session consisting of two semesters. The course of first semester will not be assessed again in the second semester or later, while some portion of the course content which was assessed in the half-yearly examinations or periodic tests may be assessed again in an annual examination.

Periodic Tests: These are used to assess the scholastic achievement of children after providing instruction for a specified period. The period may be one or two months. Some schools also call these periodic tests, Monthly tests, Terminal tests. The purpose of these tests is two fold; a) to provide feedback to children and teachers about the achievement of children. b) to help children in improving their weaknesses, These test have formative nature of evaluation and are administered periodically.

Half-yearly Examination: This type of examination is conducted after completion of half of the session. It assess the scholastic aspect of the child. It also takes in to account the achievement of children in the periodic test. Its purpose is also two-fold i.e. assessing the performance and improving upon the weakness of the child. Half-yearly examination does not mean end of a part of the syllabus, not to be tested again.

Annual Examination: It is conducted after completion of one full year or academic session. It assesses the growth of children in terms of scholastic aspects to be achieved in one session. The important purpose of annual exams are, i) grading, ii) certification, iii) promotion into next class or standard besides the results in the annual examination, the weightage may also be provided to the achievement in periodic tests and half-yearly examinations.

It is worthwhile to know the commonly used tools/techniques in our schools.

Test: It provides a situation or a series of situations to students to find out their performance in terms of scores. The scores are known as marks. The tool used to test the performance is in terms of a set of questions called, Question Paper. These tests are also called achievement tests as they concentrate mainly on the scholastic achievement of the child.

Assessment of non-scholastic aspects of students

Rating Scale: To assess the social or/and personal qualities of students like regularity, punctuality, discipline, the habit of cleanliness, interests and attitude etc., the teacher uses a rating scale. The rating may be done on a different number of points e.g., three points or five points, depending upon the requirement of the teacher. Criteria for rating every activity may be prepared in a three or five or any other point scale and separate proforma may be evolved for each activity. Marks obtained by each student on the basis of the criteria may be entered in the column provided for them. These marks may be added and the average calculated. The average score could be converted into grades as shown in the following table:

Marks	Category
Above 3.5	A
Between 2.5 to 3.5	B
Between 1.5 to 2.5	C
Between 0.5 to 1.5	D
Below 0.5	E

At the end of each term the teacher awards grades in each activity related to the personal and social qualities of the student.

Check Your Progress 5

i) What is assessment?

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ii) What is measurement?

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iii) What is the relation of evaluation, assessment and measurement?

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iv) Differentiate between semester examination and half-yearly examination?

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1.8 LET US SUM UP

In this unit, we attempted to illustrate the teaching-learning process. The educational evaluation was explained in terms of interaction with three major components of an educational process. We discussed the role and need of evaluation in teaching-learning process. Then we defined the concept of evaluation along with its major characteristics. We also distinguished between evaluation, assessment and measurement. Finally we concluded that evaluation is a comprehensive term and it is very much needed for effective teaching-learning process.

1.9 UNIT-END EXERCISES

1. Select an educational programme from your subject area and explain three major elements of the programme i.e., Objectives, Learners experiences and Learner appraisal.
2. Illustrate with suitable examples from your discipline the three terms i.e., Evaluation, Assessment and Measurement.

1.10 POINTS FOR DISCUSSION

Suppose you have taken one Educational Programme to be implemented in your class and you have been asked to evaluate the programme after implementation. What major aspects will you keep in mind for its evaluation.

1.11 ANSWERS TO CHECK YOUR PROGRESS

1.
 - i) Objectives, Learner experiences, Learner appraisal.
 - ii) It is concerned with ascertaining the extent to which the objectives have been met.
 - iii)
 - a) Objectives
 - b) Learner experiences
 - c) Learner appraisal
 - d) Relationships between the three.
2.
 - i) Suggestive activities may be classification of students in groups and promotion of student to higher grades.
 - ii) Teaching method and teaching material/context.
3.
 - i)
 - a) Systematic collection of evidence
 - b) its interpretation
 - c) judgement of value
 - d) view to take action.
 - ii) No specific reference to any action is mentioned.
 - iii) Future action to be undertaken is mentioned.
4.
 - i)
 - a) Validity
 - b) Reliability
 - c) Practicability.
 - ii) Procedure of evaluation and nature of materials on which students are to be examined.
5.
 - i) Evaluation is wider than assessment and assessment is wider than measurement. Evaluation contains assessment and measurement.
 - ii) It ascertains the extent to which the objectives of the programmes have been achieved.
 - iii) It deals with collection or gathering of data.
 - iv) In the semester system, the course of the previous semester is not assessed again while in half-yearly examinations or periodic tests some portion of the course content assessed may be assessed again in an annual examination.

1.12 SUGGESTED READINGS

Srivastava, K.S. (1989) : *Comprehensive Evaluation in School*, NCERT, New Delhi, India.

Gronlund, E. (1966) : *Measurement and Evaluation in Teaching*, The Macmillan Company, New York.

Brown Sally and Knight Peter, (1994) : *Assessing Learners in Higher Education*, Kogan Page Ltd, London.

Ingram Cregg F. (1993) : *Fundamentals of Educational Assessment*, D.Van Nostrand Company, New York.