
UNIT 4 PURPOSE OF EVALUATION

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4.1 INTRODUCTION

In Unit 1 of this Block you have studied the concept and need of Evaluation to ensure that evaluation is an essential component of the teaching-learning process. In this Unit you will study the purpose of evaluation in detail.

The Role of the teacher does not end with the completion of instruction in the class. Further, there is a need for:

- knowing to what extent instructional objectives have been achieved.
- knowing whether there are some objectives, not achieved satisfactorily by a large number of students. If so, then why not?
- knowing the strengths and weakness of individual students?
- understanding devices for finding nature and causes of difficulties in comprehension of a particular concept and its remedial measures.
- knowing how to report the results of the evaluation so that it may be understandable to the users.
- guidance to overcome the educational and adjustment problems of the learner.
- validation of new programmes and optimum use of facilities.

Thus in this unit you will be made familiar with each of the above aspects related to the purpose of evaluation.

4.2 OBJECTIVES

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

- explain the role of evaluation in the teaching-learning process,
- state the need for Diagnosis and Remedial measures,
- identify the strengths and weakness of individual student in scholastic subjects,
- state the importance of Guidance to overcome the educational and adjustment problems of the learner,
- describe the information of evaluation result to be presented in the Report so that it may be meaningful and understandable by the various users,
- describe the various uses of the result of evaluation,
- describe the need of prognosis for selection of the right profession,
- explain the need for evaluation of an individual, a group and a programme, and
- describe, how the results of evaluation justifies the optimum use of the facilities available in the schools.

4.3 ROLE OF EVALUATION IN THE TEACHING AND LEARNING PROCESS

You have studied in previous units that Evaluation is an integral part of our educational system and can be of immense value in maintaining and enhancing the quality of teaching and learning.

Education is chiefly concerned with developing and modifying the patterns of behaviour in human beings, in the realms of thinking, feeling and acting. It uses the prescribed curriculum as a means for bringing about these changes. Every curriculum aims to bring about desired changes in the learner. Therefore, first of all, the intended learning outcomes or the Instructional Objectives must be identified in two dimensions

- i) Behavioural Processes
- ii) Content of the curriculum

These are written in terms of what the students will be able to do, after receiving the learning experience. Instructional objectives provide proper direction to both the teachers and the learners. The instructional objectives are the starting points for planning of effective learning experiences.

Learning experiences are to be provided in relation to the instructional objectives. For effective learning experiences, the teacher is supposed to acquaint himself with the entering behaviour of the students, i.e. what they already know, standard achieved and level of maturity. In accordance with the necessary background, learning experiences are provided otherwise remedial teaching is resorted to, before starting the teaching of new learning experiences. The last step in the teaching i.e., evaluation or performance assessment is resorted to, before starting the teaching of new learning experiences. This is necessary for making judgement of the extent to which the intended learning outcomes have been achieved. Evaluation is also necessary to judge the effectiveness of the learning experiences.

When the performance of most of the students is not satisfactory on a particular concept/topic the learning experiences should be planned again on the basis of available evidence. Organise re-teaching, using revised instructional material and re-evaluation. It is only after careful analysis of the results of re-evaluation, that we can judge the suitability of the instructional objectives. Thus Evaluation helps us to validate the whole teaching-learning process and is

directed towards its improvement through regular feedbacks. Teaching and testing are complementary and are not to take place in isolation.

Check Your Progress 1

Which are the two dimensions needed for identification of Instructional Objectives?

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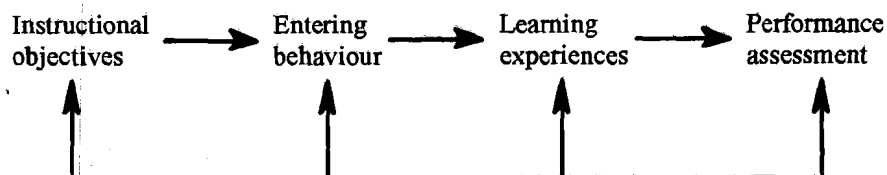
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Basic Teaching Model

Robert Glasser has used a basic teaching model for showing this relationship.



The diagram shows how the process of evaluation can help in quality improvement of teaching and learning. To be specific it can be mentioned as under:

- i) How individual students have performed.
- ii) To what extent instructional objectives have been achieved.
- iii) A poor performance by students in a test may be because the teaching was not suitable.
- iv) A poor performance on the other hand may tell us whether the instructional material is not quite suitable for the students or the learner/student himself is responsible due to his low ability or negligence of study etc.
- v) It is useful for evaluating the curriculum itself in terms of its suitability for students.

Feedback loop from evaluation to the other components of the Basic teaching model indicates how evaluation through regular feedback validates the whole teaching-learning process. Evaluation therefore brings in dynamism in the teaching-learning process and directs towards continuous improvement in an elaborate fashion.

The above discussion shows that Evaluation plays an important role in the teaching-learning process and serves a number of specific purposes and functions. The most common purposes for which evaluation is used within our educational system are discussed in the following sections.

Check Your Progress 2

In what ways are instructional objectives essential for teachers? Mention only two.

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4.4 DIAGNOSIS TO OVERCOME DEFICIENCY IN LEARNING

Diagnostic testing is seen as one component of the ongoing teaching/learning process.

It provides feedback to teachers and students regarding their strengths and weaknesses. It does not mean that almost any test would be diagnostic. In effect, a score on any standardized evaluation gives some indication of student's performance and also informs the teacher as to how successful he or she was in teaching the material. But the total score does not give any real information concerning specific areas of difficulty or their causes.

Examination of the individual items in an achievement test would tell which answers are correct and which are wrong. Further these tests have not been constructed for diagnostic purposes. They have too few items per objective and the analysis of the wrong answers cannot lead to a diagnosis of learning problems. In spite of this fact, the achievement test may help in knowing the areas of weakness of an individual and the areas of poor performance by most of the students in a class. Thus to some extent the achievement test may also serve the purpose of diagnostic testing. In order to use tests for diagnosis, they should be specifically designed for that purpose i.e. there should be a set of a large number of questions covering various parts and related area of the subject-matter for which diagnosis is to be done.

These questions should be of such a nature that they can be administered and scored quickly. The very short answer type and the multiple choice type questions, can be used for diagnostic testing. For testing one specific objective, a large number of questions may be designed to test a particular sub-skill from various perspectives. The kind of errors committed by an individual on these questions indicate his ignorance and/or misunderstanding at a particular stage in the learning sequence of that concept.

The process of diagnosis is educational and may be thought of as a progression from broad, general areas to narrower and more specific knowledge or sub-skills.

Every teacher aims for maximum achievement by each individual and by the group as a whole. But, a teacher realizes that his/her effectiveness in working with an entire class is often hindered by the deficiency in learning of a particular specific knowledge or sub-skill by some students. If some students of a class learn at a much slower rate than others the brighter students may not be given opportunities and the challenge they require for optimum performance. The teacher then looks for ways to fit instruction more effectively to the abilities and needs of each individual. Evaluation may be used to cater to these different groups differently.

A large number of standard test-items are required for diagnostic tests. In the process of diagnostic testing, several equivalent forms of tests are required. The most widely accepted method for the use of diagnostic tests calls for testing, remedial instruction, retesting, further remedial instruction, etc., until adequate mastery learning is obtained.

Evaluation has a very vital role for diagnostic testing, planning for specific remedial instruction and collection of evidence for mastery learning. No compromise should be made regarding the expected standard of attainment.

Check Your Progress 3

In what way is diagnostic testing helpful to teachers in improving classroom teaching?

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4.5 GUIDANCE — TO FACE EDUCATIONAL AND VOCATIONAL PROBLEMS AND ADJUSTMENT IN A VARIETY OF SITUATIONS

Every child confronts a variety of situations and problems in his total environment. A problem may be educational or vocational. Sometimes it may be personal or it may be social. As the child grows, he moves from the home environment to the school environment. He comes in contact with different children, participates in different activities, interacts with different teachers when he goes from one grade to another grade or one institution to another institution, and studies different subjects. Thus he encounters a large number of problems and a variety of situations within his environment.

After systematic observation/investigation of problems and a variety of situations, if guidance is provided timely then it may help the individual:

- i) to understand himself as a learner.
- ii) to know his strengths and weakness in different areas (cognitive and non-cognitive).
- iii) to adjust himself to varied situations within his total environment.
- iv) to realize his own potential,
- v) to work with most of his capacities, interests, motivation to fulfil his needs.
- vi) to understand the problems and to solve them independently.
- vii) to develop the ability to analyse the situations and to make his own decision widely.
- viii) to make his own unique contribution for welfare of the society with fullest potential.
- ix) to select appropriate Educational or Vocational Courses, based on his own potential.

To promote maximum achievement in cognitive and non-cognitive area by each individual and by the group as a whole, the teacher, with the guidance point of view, tries to know each student's achievement in scholastic subjects, interest, needs, attitudes, motivation etc.

The early workers in the Guidance movement were motivated primarily by a philanthropic or missionary spirit for advancement of the welfare of individuals. These workers did not have any organised systematic method.

Very slowly, workers in the Guidance field have developed standard methods of observation of specific facts and objective assessment of individuals.

The psychologists, psychometricians as well as other workers in the social and behavioural sciences have made significant contributions for the development of various tools and techniques for evaluation.

The scientific method can be applied not only to the problems of teaching-learning of Science, Physics and Chemistry but also to solve problems in the field of Guidance. Evaluation of abilities, aptitudes, achievement, interests, attitudes and motives are essential for Guidance. In studying problems related to Guidance, conclusion are drawn from facts that have been objectively obtained, analyzed, and evaluated by the use of the best available tools and techniques. Conclusions should be based on exact observations and consideration of all facts.

The Evaluation procedures are used for the collection of evidence of each individual about his abilities, achievements, interests, attitudes, motives and their rate of development for the purpose of Guidance. The systematic collection of all the relevant facts about an individual and its rational analysis are in accordance with the process of the scientific method.

The information thus received about an individual is helpful in guiding him for solving his problem and in relation to appropriate courses and professions.

4.6 PROGNOSIS AND SELECTION OF THE RIGHT PROFESSION

Intelligence tests are very frequently used for measurement of General Capacity. It has been observed that general intelligence is one of the significant predeterminers for success in academic achievements and in various professions.

Capacity in all fields of human activities such as arts, music, clerical work, mechanics, teaching, medical, engineering etc., is defined as 'aptitude'. Aptitude tests are used for the prediction of the capacity and potential success in particular fields. The chief purpose of aptitude tests is to predict, or to identify individuals who have the greatest potential for development along special lines or who are likely to profit most by special training.

Some of the Aptitude tests in the area of Science and Teacher training, developed in our country are described below:

- i) Scientific Aptitude Test Battery (Hindi): Having test items on Reasoning, Numerical Ability, Science Information and Science vocabulary. This has been developed to predict the success in Science at high school. This test serves the purpose of classification, selection and guidance for scientific courses at secondary level (K.K. Agarwal).
- ii) Scientific Aptitude Test for college students: This test consists of 45 items, and assesses the potentialities of students for success in the science subjects in college through seven areas (A.K.P. Sinha and I.N.K. Sinha).
- iii) Teaching Aptitude Test Battery: This test aims to measure the aptitude in the teaching profession through 80 items related to 8 areas (Shamin Karim & Ashok Kumar Dixit).
- iv) Teaching Aptitude Test: This test measures aptitude for the teaching profession (Jaiprakash and R.P. Srivastava).
- v) Teaching Aptitude Test Battery : It has 120 items and is designed to select students for teacher training courses (R.P. Singh and S.N. Sharma).

Aptitude tests are often designed on the basis of job analysis. If a test is to predict for a certain type of work, say that of an electrician, a detailed analysis of the job of an electrician may be made. On the basis of this analysis are determined the specific abilities and skills required of a successful electrician. Then a test is constructed to measure these skills, abilities and attitudes etc. objectively and accurately. The value of the test as a prediction of success is determined by giving it to a group of persons starting the Electrician training course, and the results checked against success or failure in the course of training and on the job. Here training implies clarity about the job.

In the field of education, many studies have been made of the nature of various kinds of jobs. Job analysis has been made in four different ways:

- i) To analyse the concept of the job in terms of large functions, based primarily on general experience and judgement.
- ii) To analyse documentary statements of duties.
- iii) To ascertain the activities actually engaged in by persons on the job — the process most commonly thought of as job analysis.
- iv) Amount of time devoted to various duties, perhaps based on actual records, perhaps on estimates.

There are a large number of studies related to each of the methods of job analysis. There is one very interesting study related to the third type of analysis based on activities reported as actually performed, which is popularly known as "Common Wealth Teacher Training Study".

In academic subjects of study in schools, in which there are a large number of failures, the major concern has been to develop tests for eliminating those who are likely to have substantial difficulties in achieving the academic goals of teaching. Tests should be able to predict the individuals' ability or readiness to undertake the study of a school subject successfully. These are called Prognostic Tests. The tests are designed keeping in view the intrinsic difficulty of the subject matter.

With few exceptions, the development of tests of this kind are based on some kind of analysis of the nature of the learning task.

A group of tests in this category, that have been widely used in America, are the 'reading readiness' tests. The types of tests used are: "oral vocabulary" or "direction using pictures", "Rhyming or matching sounds", "visual matching of figures, letters or words", "Visual perceiving of figures, letters or words", "learning words in a standard lesson", "Ability to read letters and words" etc.

These tests are designed to be used with children usually shortly after their entry into the first grade, to give the school as accurate an indication as possible of the child's ability to progress in reading.

The reading readiness test undertakes to predict ability to profit from reading instruction in the near future (next few months) and is not used to forecast ultimate level of reading achievement.

Check Your Progress 4

In what way is the Prognostic Testing helpful for guidance to the students?

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4.7 IMPORTANCE OF RESULTS OF EVALUATION TO DIFFERENT USERS

The results of the evaluation are useful to students, parents, teachers and administrators in various ways:

a) To Students

From the results of evaluation the students can know their strengths and weakness in respective subjects. It provides feedback to the students. It also provides a basis for checking the adequacy of their own progress in a particular subject, as well as their study habits, interests, home influence etc. which influence their performance.

b) To Teachers

Evaluation results are very useful to teachers in planning instruction and in knowing effectiveness of the teaching strategies used by them. Evaluation results also help in

diagnosing the general learning difficulties faced by the students in relation to some specific concepts.

c) Placement of Children

Evaluation results are used for determining grading, promotion, placement in the same school and in other institutions. When a school is large enough to have several groups at same grade level, a decision must be reached on some grounds as to who goes into which group. It has been observed that homogeneous grouping on the basis of the level of achievement is quite appropriate for effective classroom instruction, although it has other implications for cross socio-emotional relationship. When a pupil transfers from one school to another for admission in the same class or in a higher class, a decision must be reached as to the grade level and group into which he is to be placed. The result of evaluation is one of the most important factors for deciding in which grade and group(s) he should be placed.

Check Your Progress 5

Describe the agencies for whom the results of the evaluation are useful.

4.8 COURSE/PROGRAMME AND SCHOOL EVALUATION

The need to judge the effectiveness of the syllabus is increasing day-by-day. One of the main reasons for this is the explosion of knowledge, which is causing increase of load of the curriculum, sometimes beyond the capacity of learner in each grade.

Because of the explosion of knowledge, there is a great problem of deciding which concepts should be included and which concepts should be deleted from the curriculum of each grade. At the same time we want that the curriculum, should be relevant, challenging and useful in the present as well as in the future life of the children.

The change in curriculum of any grade should not be made on the basis of strong liking or disliking of some experts or a member of the syllabus committee. It should also be based on the results of the evaluation of students of that grade.

In other courses you will study the details of curriculum planning and its evaluation.

Whenever a new experiment or a programme is started in a school, there are some assumptions underlying it. By evaluation, we can judge the validity of these assumptions. Examples of some assumptions are:

- i) By giving home work regularly, the habit of self-learning can be developed in the students.
- ii) Formulation of a student union in the school may give training of democratic-principles to the students.
- iii) Residential Institutions are helpful in all round development of personality of the children.
- iv) Continuous evaluation of children leads to better achievement by them.

By evaluation, the extent to which assumptions in each of the above statements are valid can be found out. The evaluation of a programme has many elements different from those included in the evaluation of individuals.

The curriculum is almost the same in most of the schools. Schools exist to serve the students. All the efforts of teachers are directed towards the broad goal of educating the students. All the physical facilities within the schools are used for the educational venture and welfare of the students.

There is always a limitation of available resources like number of trained teachers, time for completion of the course, facilities in the schools like classrooms, furniture, laboratory, audio-visual aids, library, play-grounds, hostel etc. There is a need for economical planning of all these resources of men, material and physical facilities. Authorities should see that there is an optimum distribution of all these resources in every school and for each child. The planning for optimum distribution of resources should, to some extent, be based on the results of achievement i.e. the evaluation of the students, the teachers and the methods used.

4.9 LET US SUM UP

In this Unit, we started our discussion with role of Evaluation for effective planning of classroom instruction and determining the level of attainment of instructional objectives by individual pupils. The other important purpose of evaluation is the diagnosis of deficiency in learning, prognosis for determining the readiness for learning a specific task and placement of children in different groups and grades of the same school and different schools. The evaluation results are also helpful in determining the effectiveness of a course, programme and functioning of a school.

4.10 UNIT-END EXERCISES

1. Conduct a unit-test on one or two units taught by you. Analyse the results and find the topics in which:
 - a) more than 80% students could attain more than 80% marks.
 - b) more than 50% students could attain less than 20% marks only. On the basis of the above analysis, what can you say about the strengths and weaknesses of the children?
2. Prepare a diagnostic test on a topic for finding deficiency in learning.
3. What methodology do you follow for placement of students in your school?

4.11 POINTS FOR DISCUSSION

1. If most of the students failed in a particular topic taught by you, what can be the possible reasons for this? What precautions would like to take so that such a thing is not repeated in the future?
2. In what way should you use the result of evaluation for guidance to the children?

4.12 ANSWERS TO CHECK YOUR PROGRESS

1. i) Behavioural Processes
ii) Content of the curriculum

2. i)• To know the performance of students, and
ii) Suitability of instructional material.
3. It helps teachers in finding out the weakness or strength of their students in different areas. By knowing the weakness of the students, the teacher can improve his classroom teaching by modifying his content and methods of teaching.
4. It is helpful for guidance to the students as it tells us about what the students can do in the future on the basis of their achievement and abilities.
5. Parents, teachers, students, employers and various types of institutions.

4.13 SUGGESTED READINGS

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