

Educational Measurement and Evaluation

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Abstract—Education aims at modification of behaviour of the child in a socially desirable direction. The Major function of education is to promote learning and Pupil-growth. Education process has some objectives. The schools exist in order to accomplish these objectives. It follows that the schools should formulate appropriate educational programmes to accomplish these objectives. To assess how far these objectives have been achieved, provisions for measurement and evaluation be made. In education system, evaluation has the most important role to play. Education is chiefly concerned with developing and modifying the patterns of behaviour in human beings, in the realms of thinking, feeling and acting. Evaluation is one of the most important stages in teaching-learning process. Education is goal directed and developmental. Educational outcomes are judged in term of goal attainment through the process of evaluation that deals with the collection of evidences regarding the changes with occur in the pupil's behaviour during instruction.

The traditional system of annual or end-of-the-year examination is criticized. Evaluation is a continuous process. There is no end to it. It goes on continuously. Through continuous evaluation it is possible to regularly obtain information dada about pupil's progress and weakness. This sort of information helps the teacher in providing remedial and improved teaching. Thus continuous comprehensive evaluation may be a panacea for many evils of traditional evaluation system. Continuous compressive evaluation is not an end itself rather it is a mean to an end. It facilitates the teacher to make necessary modification in teaching as well as testing.

Keywords: Education, evaluation, continuous and comprehensive

1. INTRODUCTION

Education in the wider sense is a life-long process. It begins with the birth of a child and ends with its death. It is a continuous process. Continuity is the law of life. Education is a lifelong process and goes on from birth to death. Life is a continuous process of growth and development and so education is also a continuous process. An individual learn through his experiences, which are acquired throughout his life. Education is not merely collection of some information. It is acquisition of experiences through life in the social and natural environment. Here the word 'Education' is used for the formal education which is imparted in schools. Schools exist in order to accomplish certain aims and objectives which can be expressed in terms of desired changes in pupil's behaviour

through the content and learning activities. Thus evaluation involves objectives, content, learning activities and the evaluation procedure itself. Each of these four is related to each other. Instructional programs in the schools are formulated in order to accomplish objectives. The objectives are not likely to be accomplished successfully unless provision is made for determining the extent to which instructional programme have been effective. This determination of the extent to which instructional programmes have been effective is nothing but evaluation and measurement. Educational evaluation is nothing but it is the application of evaluation procedure in the process of education, specifically to classroom instruction.

2. OBJECTIVES

Education is not only a means for the acquisition of knowledge and experience but also for the development of skills, right habits, positive attitudes etc. The child should be trained through his various experiences of life to draw out the best in him. The main objectives of the classroom teaching is to guide and influence pupils to attain certain educational goals in life and to set the direction of career of students. The desired direction and attainment of goals is guided by the educational objectives formulated by the school and the teacher. There are three major elements of the teaching-learning process. These are objectives. Learning experience and learning appraisal. Learning appraisal or evaluation plays an important role in 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. After the learning experiences are provided it is the task of the educator to evaluate how far the objectives have been achieved. If through evaluation it is found that learning experiences are not suitable new learning experiences can be thought of. If some objectives are found to be too difficult to be achieved, they can be modified and reformulated sometimes when the objectives are fulfilled some new objectives at a higher level can be fixed up and learning

experiences can be provided accordingly. They are again evaluated. Thus evaluation is a continuous process.

3. MEASUREMENT AND EVALUATION

Measurement is common to everyday life. If we analyse a day's activity we find that we use measurement in some form or other. It can be said that almost every aspect of human life from birth to death is touched by measurement. Measurement is mainly concerned with collection of data for example student's score in an examination. It is an act or process of measuring physical properties of objects such as length and mass. Measurement ascertains the extent and quantity of anything measured. Measurement means comparing an unknown quantity with a known quantity which is taken as unity. When a test is given, a measure is obtained. Measurement quantifies the data obtained through the test. We also obtain data through observation, rating scale or any device and these data can be quantified. The result of measurement is simply a quantitative value which expresses the amount of characteristics possessed by an individual. Similarly in behavioural sciences, it is concerned with measurement of psychological characteristics such as neuroticism and attitude towards various phenomena. The measurement involves assigning a score on a given task performed by the learner. Evaluation involves assessment and measurement. Measurement is a part of evaluation. Measurement provides data for evaluation. Interpretation will be clear when the data are quantified and a value judgement is assigned. When we conduct tests we get some scores. These quantitative scores/ measures are to be properly interpreted and this is what we call evaluation. Suppose in a test of language Rama has got a score of 68. This is a case of measurement. But when we interpret how good the score is we are evaluating the performance. When we say that Rama's performance is satisfactory of his class, we are evaluating his achievement in language. Thus evaluation attaches meaning or value judgement to measurement. Measurement refers to the qualitative aspect where as evaluation refers to both quantitative and qualitative aspects.

Evaluation means a series of activities that are designed to measure the effectiveness of the teaching learning system as a whole. Evaluation is not just another word for assessment. The quality of our learner's learning may be well one of the outcomes we need to evaluate. Evaluation always includes value judgements. It is qualitative description of characteristics.

Assessment is a general term that includes the full range of procedures used to gain information about student learning through observations, ratings of performances, different tests and the information of value judgements concerning learning progress. Assessment is an integrated process for determining the nature and extent of student learning and development. Assessment is much more comprehensive and inclusive term

than measurement. Assessment may include both quantitative and qualitative description of students.

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

4. DIFFERENCE BETWEEN MEASUREMENT AND EVALUATION

Measurement

1. It is scientific in nature
2. It refers to quantitative value
3. It measures "How much".
4. In measurement we assign symbols to quantify the data.
5. Measurement is narrower.
6. Measurement involves only a quantitative description.
7. It is objective.
8. Measurement provides data for evaluation.

Evaluation

1. It is philosophical in nature.
2. It refers to subjective judgement.
3. It interprets "how well" or "how good".
4. In Evaluation we assign symbols to characterise the worth with respect to some accepted standard.
5. Evaluation is broader.
6. Evaluation includes both quantitative and qualitative.
7. It may involve subjective judgements.
8. Evaluation gets data from measurement.

5. FUNCTION OF EDUCATIONAL MEASUREMENT AND EVALUATION

1. To evaluate intended outcomes.
2. To evaluate the pupils growth.
3. To establish most appropriate and realistic objectives of instruction.
4. To assess the effectiveness of different methods.
5. To assess different educational practices.
6. To plan appropriate learning strategies.
7. To improve instruction and quality of teachers.
8. To test minimum competency of learning.
9. To study the status of children.

10. To diagnose the weakness of students and the difficulties in learning.

6. TYPES OF EVALUATION

Evaluation in learning process is highly essential to assess pupil-growth. We evaluate pupil-learning with different purposes. According to functions evaluation can be of four types. They are placement evaluation, diagnostic evaluation, Formative evaluation and summative evaluation.

a. Placement Evaluation

It is concerned with the pupil's entry behaviour at the beginning of a new course. To begin with a new course it is necessary that students should possess pre-requisite knowledge and skills needed for the course. Before starting a planned instruction the teacher must know whether the pupil possess the necessary knowledge and skill needed for it. The teacher has to assess the pupil's background and past experiences. The main goal of this evaluation is to determine the level of the child in the instructional sequence.

b. Diagnostic Evaluation

Diagnostic evaluation gives emphasis on recurring learning difficulties, If a student commits the same error repeatedly, diagnostic evaluation aims at identifying the weakness of the pupils in a given course of instruction. The purpose is that when specific weakness of a pupil is detected, suitable remedial measures can be undertaken. Diagnosis can be made by employing observational techniques too.

c. Formative Evaluation

Formative evaluation is used to monitor the learning progress of students during the period of instruction. Its main objectives are to provide continuous feedback to both teacher and student concerning learning successes and failures while instruction is in process. Feedback to students provides reinforcement of successful learning and identifies the specific learning errors that need correction. From these above stated uses its uses can be restated as : to plan corrective action for overcoming learning deficiencies, to facilitate pupil motivation and to accelerate retention and transfer of learning. Formative evaluation helps a teacher to ascertain the pupil-progress from time to time. At the end of a topic or unit the teacher can evaluate the learning outcomes basing on which he can modify his methods, techniques and device of teaching to provide better learning experiences. In other words, formative evaluation provides feedback to the teacher. Formative evaluation also provides feedback to pupils also. The pupil knows his learning progress from time to time. Thus formative evaluation motivates the pupil for better learning. Formative evaluation is not terminal in character rather its main focus is on improvement of teaching learning process. Formative evaluation views evaluation 'as a process' and thus, it is an integral part of the learning process. Formative evaluation

depends on tests, quizzes, homework, class work, oral questions prepared for each segment of instruction. The tests used for formative evaluation are mostly teacher-made, observational techniques are also useful in monitoring student's progress.

d. Summative Evaluation

At the end of the course summative Evaluation is done to measure achievement. It is designed primarily for assigning grades or to determine whether students have mastered the objectives and also to indicate whether the instruction has been effective. It is for certifying student mastery of the intended learning outcomes at the end of a particular programme. The techniques used for summative evaluation are determined by the instructional objectives. For this evaluation, there are external examinations as well as teacher-made tests, ratings etc. Although the main purpose of summative evaluation is assigning grades and certificates. It also provides information for judging the appropriateness of the course objectives and the effectiveness of instruction. Summative evaluation is judgemental and terminal in character. It is terminal in nature because it comes at the end of a course. It views evaluation as a 'Product'. It is judgemental in character in the sense that it judges the achievement of pupil. Even summative evaluation judges the efficacy of school programme or systems and thereby guides the administrators whether the programme or the system is to be accepted or rejected. Summative evaluation procedures are useful in providing some direct feedback to pupils, in evaluating the material and methods of instruction, and in comparing the effectiveness of alternative programmes of instruction. This evaluation is meant for promoting pupils to higher classes.

7. CONTINUOUS AND COMPREHENSIVE EVALUATION

The primary task of education is the all-round development-cognitive, affective and psycho-motor domain of the learner. The role of the teacher is not only to carry on the teaching-learning process in the direction of the total development of the student but also to assess how far the teaching-learning process has been effective, to what extent an objective fixed has been fulfilled and how for the learning experiences provided have been appropriate and useful. In order to make up the deficiencies in assessing non-scholastic aspects of development of the learner, continuous comprehensive evaluation is considered as most suitable device for the purpose. Thus continuous comprehensive evaluation should substitute the traditional pattern of examination. This type of evaluation augments the process of all-round development of the learner to an optimum level. At the school stage, the child is in formative stage of learning. Hence in NPE (1986) it has been emphasised that the school level the evaluation should be formative and developmental in nature. As educational evaluation is an integral part of the instructional programme, it

provides information which serves as a basis for a variety of educational decisions to be made and the most important among those is pupil's improvement in learning throughout the process of instruction, that it necessitates the evaluation procedure to be continuous. Continuous evaluation means that evaluation is conducted more frequently spread throughout the total span of instructional time. It is a process of continuous attempts to assess desirable change taking place in students along the line of educational objectives. Evaluation is done while teaching. So that the corrective measures can be taken in time. It also helps the teacher to evaluate his teaching strategies through the child's progress in relation to the instructional objectives. If necessary, in order to improve child's learning, the teacher may change his strategies.

Comprehensive evaluation refers to the evaluation of the total growth and development of the pupil's personality. The dictionary meaning of comprehensive is having the power of containing much. It indicates that when the evaluation is broad-based measuring different aspects of learning outcomes. It is termed as comprehensive evaluation. Personality is the sum total of person's qualities and traits that makes them unique individual. It includes one's intellectual, physical, personal, social, emotional, spiritual aspects as well as interests, attitudes, values, skills etc. For attainment of all round development of the personality, Pupils are to be evaluated in all those aspects which are described under two broad areas they are scholastic and co-scholastic. The desirable behaviour related to the students' knowledge and understanding in subjects and his ability to apply in an unfamiliar situation are described as objectives in the scholastic domain.

Keeping in mind the harmonious development of the child the curriculum designers have now incorporated co-scholastic areas like health education, physical education, SUPW, adult education etc. Evaluation is made comprehensive encompassing all the facts of personality development. Personal and social qualities like sincerity, punctuality, regularity, initiative, co-operation, health habits etc of the pupils can be evaluated. Musical artistic, dramatic, literary and cultural interest of pupils can be evaluated. Socially desirable and healthy attitudes like democracy, socialism, secularism, patriotism, internationalism and love for school can also be assessed.

Realizing the importance of his sort of evaluation, in National Policy on Education document 1986 and as modified in 1992 it is mentioned that the scheme of evaluation should cover all learning experiences of scholastic subjects and co-scholastic domains. For comprehensive evaluation cumulative record card is a good method of measuring pupil growth.

Scholastic and co-scholastic areas are interrelated with each other. Each one is affected another. Both scholastic and co-scholastic areas should be given equal importance and thereby the process of evaluation to be comprehensive one.

8. CONCLUSION

In many ways, the result of the evaluation is useful to students, parents, teachers and administrators. From the result 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 etc. By knowing the evaluation results of students, the teacher is able to plan the instruction and follow the suitable strategies for the fruitful teaching class. Now we can say that evaluation is one of the most important education processes. It fulfils various purposes in systems of education like quality control in education. Evaluation helps a lot in the design and modification of learning experience on the basis of feedback received by learner appraisal. Continuous and comprehensive evaluation refers to a system of school based assessment of students that covers all aspects of student's development. This evaluation process helps the students to develop cognitive, psychomotor and affective skill. This process provides the students for self-evaluation and self-improvement. Continuous and comprehensive evaluation process helps to evaluate both process and product of teaching and learning.

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