

Tests represent one particular measurement technique. A test is a set of questions each of which has a correct answer that examinees usually answer orally or in writing. Test questions differ from those used in measures of attitudes, interest or preference, or certain other aspects of personality. Ideally, the questions in tests of achievement or many tests of intelligence have answers that content experts can agree are correct; correctness is not determined by the particular values, preferences, or dislikes of a group of judges.

All tests are a subset of the quantitative tools or techniques that are classified as measurements. And all measurement techniques are a subset of the quantitative and qualitative techniques used in evaluation. A major concern in this text, but certainly not the only one, will be with the development of tests that can contribute to summative evaluation of student learning. Other measurement and evaluation techniques are useful for other evaluation purposes, but tests that measure relevant school learning with precision are the most useful tools available to teachers for most classroom summative evaluation needs.

1.4 Relationship between Evaluation and Measurement

- (A) Stevens (1951) explains the difference between evaluation and measurement in these words. In its broadest sense, measurement is the assignment of numerals to objects, or events, according to rules. We measure height and weight following certain rules and then assign some numerical value to the measurements. We do not assign numbers in all cases of measurement, especially when using criterion-referenced measuring instruments. Here the symbols assigned may be equivalent to (+) or (-) since the measuring instrument

set a single standard and the individual either meets or fails to meet the absolute standard set by the objective. When evaluating data we go beyond the concept of measurement and make a judgement about the measurements taken".

- (B) Dubois, Alverson and Staley (1979) explain the distinction between evaluation and measurement in these words, "As with any assessment process, the evaluation of entering behaviour involves the collection and evaluation of data. Psychologists working in the field of tests and measurements use the term measurements to refer to the collection portion of the process.
- (C) A Dictionary of Education (1981) explains the concept measurement as "Fundamentally we can say that measurement entails certain rules and procedures for assigning numbers to attributes in such a way that the numbers represent the quantity of the attribute. It is necessary to be clear that it is not the object, organism or event itself which is being measured. For example, we don't measure a 'piece of wood' but we measure one of its attributes such as its length or weight. In educational measurement we are faced with attributes that do not lend themselves to such intuitive procedures (as used in physical sciences).
- (D) In the words of Lester O. Cron and Others, "Evaluation is a broader term than measurement. Evaluation not only is concerned with the determination of learning results but it also involves value judgement of the desirability of these results. It is a continuous process

in which various techniques of testing or measurement can be utilized. Evaluation is a cooperative activity in which the principal, the teacher, the pupils and the parents participate."

- (E) H.H Remmen and N. L Gage point out, "It is the felt need that has caused the shift from the term 'measurement' implying mathematically precise mensuration of knowledge -to the term 'evaluation' which widens the areas to be studied to include subjective opinions and qualitative changes as well as objective and quantitative changes to include changes in attitudes, appreciation and understandings as well as acquisitions of knowledge and skills."
- (F) Prof. Adediran A Taiwo (1995) distinguishes measurement and evaluation in these words, "While measurement is concerned with only the amount, quantity or frequency of a variable, evaluation matches such an amount, quantity or frequency with relevant criteria for the purpose of making some value judgement about the measured or the observed amount.....In essence, the term evaluation involves both quantitative and qualitative description of events, behaviours, things, parameters, variables as well as value judgement of things or events being described. It therefore, follows that any time one talks of evaluation, be it in the realm of achievements of students, the effectiveness of a teaching method or the appropriateness of a curriculum, one is concerned with both numerical and verbal description as well as value judgement of what is being described."

- (G) Evaluation is a comprehensive and continuous process, which covers every aspect of an individual's achievement in the educative programme. It is an integral part of education in which students and teachers are partners. It signifies a wider process of judging students, progress, in various aspects. Measurement, on the other hand, implies only a precise quantitative assessment of instructional outcomes.

Evaluation is integrated with the entire task of education and not only with examinations, tests and measurement.

Evaluation encompasses tests and measurement but also goes beyond them.

Evaluation depends upon measurement but is not synonymous with it.

Measurement is a quantitative determination of how much an individual's performance has been, while evaluation is a qualitative judgement of how good or how satisfactory an individual's performance has been.

Measurement describes a situation; evaluation judges its worth or value.

Measurement is only a tool to be used in evaluation. By itself, it is meaningless, but without it evaluation is likely to be of little significance.

Sound evaluation is based upon the results of accurate and relevant measurement. It is also to be remembered that not all uses of a test or measurement in education can be considered evaluation, for evaluation is always in the light of some particular goal, purpose or value.

Evaluation is not only quantitative but also qualitative and includes value judgement. Mathematically it may be said that:

Evaluation=Measurement (quantitative description of students' achievements) +Qualitative description of students' abilities +value judgement about students' achievements and abilities.

(H) The difference between evaluation and measurement may be explained with the help of following examples:

- (1) A teacher measures Aslam's height to be 180 cm. He evaluates his height when he says that he is 'long'.
- (2) A teacher measures Ali's achievement in Economics to be 50%. He evaluates his achievement when he says that Ali's achievement in Economics is 'satisfactory'.
- (3) A teacher measures the size of a classroom and finds that it is 4mx3m. He evaluates the classroom dimensions when he reports that the classroom is 'too small' for 40 students.
- (4) Aslam and Ali study in the same class. In the first test they obtain 50 and 70 marks respectively in English. In the second test, both of them obtain 80 marks. Now in the second measurement (test scores), achievement in English is the same, yet the evaluation will differ. When the teacher states that the rate of progress of Aslam is comparatively better than that of Ali.

Measurement helps in evaluation. This may be clarified by taking one example. Aslam and Ali study in the same class. They take two tests. In the first test, they obtain 45 and 65marks respectively in Civics. In the second test, both of them obtain 80 marks. Now, in the second test, the measurement (test scores) of their achievement

in Civics is the same, yet the evaluation will differ, when the teacher says that the rate of progress of Aslam is comparatively better than that of Ali.

1.5 Summary

Measurement is principally concerned with quantitative descriptions of student achievement. Unlike evaluation, it does not imply judgements about the worth of an educational programme. Measurement involves the assigning of numbers that represent the amount of a property possessed (that is, value) by an object or system. Scales associated with measurement include nominal, ordinal, interval and absolute.

Testing is measuring device concerned with specific achievement of a student in terms of given objectives. Evaluation, on the other hand, deals with finding out as far as possible the worth of a process, system or programme. When, on the basis of test results, a teacher decides on what should be done to improve the outcomes of instruction, he is assuming the role of an evaluator. Thus there is a continuous interplay between testing or measurement and evaluation.

Measurement and evaluation play an important role in the instructional programme of the school. Basically, they provide information that can be used in a variety of educational decisions. The main emphasis in classroom evaluation, however, is on decisions concerning pupil learning and development.

From an instruction standpoint, evaluation may be defined as a systematic process of determining the extent to which instructional objectives (i.e., intended learning outcomes) are achieved by pupils. The evaluation process includes both measurement procedures (e.g., test) and nonmeasurement procedures (e.g., informal observation) for describing changes in