MEANING AND DEFINITION OF TEST

A physical test is a qualitative or quantitative procedure that consists of determination of one or more characteristics of a given product, process or service according to a specified procedure. Often this is part of an experiment.

Physical testing is common in physics, engineering, and quality assurance.

Purposes

Physical testing might have a variety of purposes, such as:

- if, or verify that, the requirements of a specification, regulation, or contract are met
- Decide if a new product development program is on track: Demonstrate proof of concept
- Demonstrate the utility of a proposed patent
- Provide standard data for other scientific, engineering, and quality assurance functions
- Validate suitability for end-use
- Provide a basis for Technical communication
- Provide a technical means of comparison of several options
- Provide evidence in legal proceedings

Performance testing

Some physical testing is performance testing which covers a wide range of engineering or functional evaluations where a material,
product, or system is not specified by detailed material or component specifications. Rather, emphasis is on the final measurable performance characteristics. Testing can be a qualitative or quantitative procedure. Many Acceptance testing protocols employ performance testing e.g. In the stress testing of a new design of chair.

MEASUREMENT AND EVALUATION

Educational measurement refers to the use of educational assessments and the analysis of data such as scores obtained from educational assessments to infer the abilities and proficiencies of students. The approaches overlap with those in psychometrics. Educational measurement is the assigning of numerals to traits such as achievement, interest, attitudes, aptitudes, intelligence and performance.

Overview

The aim of theory and practice in educational measurement is typically to measure abilities and levels of attainment by students in areas such as reading, writing, mathematics, science and so forth. Traditionally, attention focuses on whether assessments are reliable and valid. In practice, educational measurement is largely concerned with the analysis of data from educational assessments or tests. Typically, this means using total scores on assessments, whether they are multiple choice or open-ended and marked using marking rubrics or guides.

In technical terms, the pattern of scores by individual students to individual items is used to infer so-called scale locations of students, the “measurements”. This process is one form of scaling. Essentially, higher total scores give higher scale locations, consistent with the traditional and everyday use of total scores. If certain theory is used, though, there is not a strict correspondence between the ordering of total scores and the ordering of scale locations. The Rasch model provides a strict correspondence provided all students attempt the same test items, or their performances are marked using the same marking rubrics.

In terms of the broad body of purely mathematical theory drawn on, there is substantial overlap between educational measurement and psychometrics. However, certain approaches considered to be a part of psychometrics, including Classical test
theory, Item Response Theory and the Rasch model, were originally developed more specifically for the analysis of data from educational assessments.

One of the aims of applying theory and techniques in educational measurement is to try to place the results of different tests administered to different groups of students on a single or common scale through processes known as test equating. The rationale is that because different assessments usually have different difficulties, the total scores cannot be directly compared. The aim of trying to place results on a common scale is to allow comparison of the scale locations inferred from the totals via scaling processes.

**NEED AND IMPORTANCE OF MEASUREMENT AND EVALUATION**

Any of a variety of procedures used to obtain information about student performance includes traditional paper and pencil tests as well as extended responses (e.g. essays) and performances of authentic tasks (e.g. laboratory experiments). Assessment answers the question, “How well does the individual perform?”.

**Test**

An instrument or systematic procedure for measuring a sample of behaviour by posing a set of questions in a uniform manner. Because a test is a form of assessment, tests also answer the question, “How well does the individual perform – either in comparison with others or in comparison with a domain of performance tasks?”.

**Measurement**

The process of obtaining a numerical description of the degree to which an individual possesses a particular characteristic. Measurement answers the question, “How much?”.

- Test is used to gather information.
- That information is presented in the form of measurement.
- That measurement is then used to make evaluation.

**Concept of Evaluation**

- Science of providing information for decision making.
- Includes measurement, assessment and testing.
Evaluation is a concept that has emerged as a prominent process of assessing, testing and measuring. Its main objective is Qualitative Improvement.

2. Evaluation is a process of making value judgements over a level of performance or achievement. Making value judgements in Evaluation process presupposes the set of objectives.

3. Evaluation is the process of determining the extent to which the objectives are achieved.

4. Concerned not only with the appraisal of achievement, but also with its improvement.

5. Evaluation is continuous and dynamic. Evaluation helps in forming the following decisions.

**Types of Decisions**

- Instructional
- Curricular
- Selection
- Placement or Classification
- Personal

1. Evaluation assists in taking certain instructional decisions like:
   - to what extent students are ready for learning experience
   - to what extent they can cope with the pace of Learning Experiences provided.
   - How the individual differences within the group can be tackled.
   - What are the learning problems of the students?
   - What is the intensity of such problems?
   - What modifications are needed in the instruction to suit the needs of students, etc.

**Role of Evaluation in Decision Making**

- Decision regarding intended ends
- Decision regarding intended means
- Decision regarding actual ends
• Decision regarding actual means
Components of Evaluation Process ==
General Principles of Evaluation ==
1. Clarify specifying what is to be evaluated has priority in the evaluation process.
2. An evaluation procedure should be selected because of its relevance to their characteristics or performance to be measured.
3. Comprehensive evaluation requires a variety of procedures.
4. Proper use of evaluation procedure requires an awareness of their limitations.
5. Evaluation is a means to an end, not an end in itself.

Short Answer Type
DIRECT QUESTION, a specific direction, or a stimulus which produces a response of upto 3 t 5 points, or a diagram, or a numerical making.

Useful to test
• to knowledge of vocabulary
• names, dates, terminology
• identification of concepts
• ability to solve numerical problems

Rules
Wording of the questions should be so frame that the response would be definite.
Eg. What kind of process is vapourisation? (poor) To what does a liquid change when it evaporates? (better)
Questions should be so worded that there is only one correct answer.
Eg. What is the place of where a plant or an animal lives is known as? (Habitat)

Multiple Choice
• Direct question
• Stem of the Item
• Incomplete statement
• Words