INTRODUCTION

Educational reformers are seeking answers to two fundamental questions: (1) How well are students learning? And (2) how effectively are teachers teaching? Classroom assessment responds directly to about better learning and more effective teaching. Classroom assessment, involves students and teachers in the continuous monitoring of students' learning. It provides faculty with feedback about their effectiveness as teachers, and it gives students a measure of their progress as learners. Most important, because classroom assessments are created, administered, and analyzed by teachers themselves on questions of teaching and learning that are important to them, the likelihood that instructors will apply the results of the assessment to their own teaching is greatly enhances. The classroom assessment process assumes that students need to receive feedback early and often, that they need to evaluate the quality of their own learning, and that they can help the teacher improve the strength of instruction. Assessment is integral to the teaching–learning process, facilitating student learning and improving instruction, and can take a variety of forms. Classroom assessment is generally divided into three types: assessment for learning, assessment of learning and assessment as learning. Classroom assessment is the process of collecting information from your students about their experience as learners in your class. There are many different ways of collecting information, depending on what you are teaching and what kind of information teacher need.

All types of assessment are based on the principle that the more clearly and specifically to understand how students are learning, the more effectively teacher can teach them. When assessing the classroom, some issues to consider are how to allow all students to contribute, how to respond to the student feedback, and how often to collect feedback. For this purpose teacher uses different modes such as test and techniques for assessing (a) course-related knowledge and skills; (b) learner attitudes, values, and self-awareness; and (c) learner reactions to teachers and teaching. Classroom assessment test and techniques are formative evaluation methods that serve two purposes. They can help you to assess the degree to which your students understand the course content and they can provide information about the effectiveness of teaching learning process. So this unit addresses the different types of tests and techniques and their application for assessing the degree to which students understand the course contents and they can provide information about the effectiveness of teaching learning process.

OBJECTIVES

After studying this unit, prospective teachers will be able to:

1. understand and describe the different types of tests and techniques.

2. examine the purposes and characteristics of tests and techniques.

3. describe the role of tests and techniques for improving the teaching learning process.

4. analyze the advantages and disadvantages of each type of test and technique.

3.1 Tests

3.1.1 Achievement Tests

Achievement tests are widely used throughout education as a method of assessing and comparing student performance. Achievement tests may assess any or all of <u>reading</u>, <u>math</u>, and written language as well as subject areas such as science and social studies. These tests are available to assess all grade levels and through adulthood. The test procedures are highly structured so that the testing process is the same for all students who take them.

It is developed to measure skills and knowledge learned in a given grade level, usually through planned instruction, such as training or classroom instruction. Achievement tests are often contrasted with tests that measure aptitude, a more general and stable cognitive trait.

Achievement test scores are often used in an educational system to determine what level of instruction for which a student is prepared. High achievement scores usually indicate a mastery of grade-level material, and the readiness for advanced instruction. Low achievement scores can indicate the need for remediation or repeating a course grade.

Teachers evaluate students by: observing them in the classroom, evaluating their day-to-day class work, grading their homework assignments, and administrating unit tests. These classroom assessments show the teacher how well a student is mastering grade level learning goals and provide information to the teacher that can be used to improve instruction. Overall achievement the testing serves following purposes:

- Assess level of competence
- Diagnose strength and weaknesses
- Assign Grades
- Achieve Certification or Promotion
- Advanced Placement/College Credit Exams
- Curriculum Evaluation
- Accountability
- Informational Purposes

(i)   Types of Achievement Tests

(a) Summative Evaluation:

Testing is done at the end of the instructional unit. The test score is seen as the summation of all knowledge learned during a particular subject unit.

(b)   Formative Evaluation:

Testing occurs constantly with learning so that teachers can evaluate the effectiveness of teaching methods along with the assessment of students' abilities.

(ii)   Advantages of Achievement Test:

- One of the main advantages of testing is that it is able to provide assessments that are psychometrically valid and reliable, as well as results which are generalized and replicable.
- Another advantage is aggregation. A well designed test provides an assessment of an individual's mastery of a domain of knowledge or skill which at some level of aggregation will provide useful information. That is, while individual assessments may not be accurate enough for practical purposes, the mean scores of classes, schools, branches of a company, or other groups may well provide useful information because of the reduction of error accomplished by increasing the sample size.

(iii)   Designing the Test

Step 1: The first step in constructing an effective achievement test is to identify what you want students to learn from a unit of instruction. Consider the relative importance of the objectives and include more questions about the most important learning objectives.

Writing the questions:

Step2: Once you have defined the important learning objectives and have, in the light of these objectives, determined which types of questions and what form of test to use, you are ready to begin the second step in constructing an effective achievement test. This step is writing the questions.

Step3: Finally, review the test. Are the instructions straightforward? Are the selected learning objectives represented in appropriate proportions? Are the questions carefully and clearly worded? Special care must be taken not to provide clues to the test-wise student. Poorly constructed questions may actually measure not knowledge, but test-taking ability.

(iv)   General Principles:

While the different types of questions--multiple choice, fill-in-the-blank or short answer, true-false, matching, and essay--are constructed differently, the following principles apply to construct questions and tests in general.

- Make the instructions for each type of question simple and brief.
- Use simple and clear language in the questions. If the language is difficult, students who understand the material but who do not have strong language skills may find it difficult to demonstrate their knowledge. If the language is ambiguous, even a student with strong language skills may answer incorrectly if his or her interpretation of the question differs from the instructor's intended meaning.
- Write items that require specific understanding or ability developed in that course, not just general intelligence or test-wiseness.

- Do not suggest the answer to one question in the body of another question. This makes the test less useful, as the test-wise student will have an advantage over the student who has an equal grasp of the material, but who has less skill at taking tests.
- Do not write questions in the negative. If you must use negatives, highlight them, as they may mislead students into answering incorrectly.
- Specify the units and precision of answers. For example, will you accept numerical answers that are rounded to the nearest integer?

(v)   Interpreting the Test Results:

If you have carefully constructed an achievement test using the above principles, you can be confident that the test will provide useful information about the students' knowledge of the learning objectives. Considering the questions relating to the various learning objectives as separate subtests, you can develop a profile of each student's knowledge of or skill in the objectives. The scores of the subtests can be a useful supplement to the overall test score, as they can help you identify specific areas which may need attention. A carefully-constructed achievement test can, by helping you know what your students are learning, help you to teach more effectively and, ultimately, help the students to master more of the objectives.

| **Activity:**	Prepare the achievement test on content to be taught of any subject while focusing its steps and discuss with your course mates.

3.1.2   Aptitude Tests

Aptitude tests assume that individuals have inherent strengths and weaknesses, and are naturally inclined toward success or failure in certain areas based on their inherent characteristics.

Aptitude tests determine a person's ability to learn a given set of information. They do not test a person's knowledge of existing information. The best way to prepare for aptitude tests is to take practice tests.

Aptitude and ability tests are designed to assess logical reasoning or thinking performance. They consist of multiple choice questions and are administered under exam conditions. They are strictly timed and a typical test might allow 30 minutes for 30 or so questions. Test result will be compared to that of a control group so that judgments can be made about your abilities.
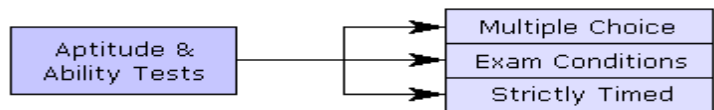
You may be asked to answer the questions either on paper or online. The advantages of online testing include immediate availability of results and the fact that the test can be taken at employment agency premises or even at home. This makes online testing particularly suitable for initial screening as it is obviously very cost-effective.
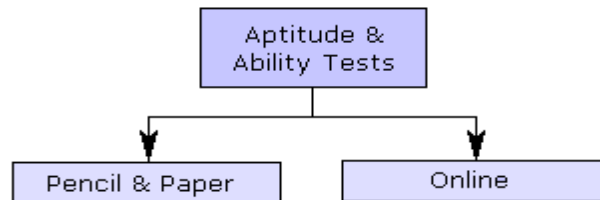
(i) Types of Aptitude Test

The following is a list of the different types of <u>aptitude test</u> that are used for assessment process.

(a)   Critical Thinking

Critical thinking is defined as a form of reflective reasoning which analyses and evaluates information and arguments by applying a range of intellectual skills in order to reach clear, logical and coherent judgments within a given context. Critical thinking tests force candidates to analyse and evaluate short passages of written information and make deductions to form answers.

(b)   Numerical Reasoning Tests

Numerical tests, sometimes known as numerical reasoning, are used during the application process at all major <u>investment bank</u>s and <u>accountancy & professional services</u> firms. Test can be either written or taken online. The tests are usually provided by a third party.

Perceptual Speed Tests
Perceptual speed is the ability to quickly and accurately compare letters, numbers, objects, pictures, or patterns. In tests of perceptual speed the things to be compared may be presented at the same time or one after the other. Candidates may also be asked to compare a presented object with a remembered object.

(c)   Spatial Visualization Tests

Spatial visualization ability or Visual-spatial ability refers to the ability to mentally manipulate 2-dimensional and 3-dimensional figures. It is typically measured with simple

cognitive tests and is predictive of user performance with some kinds of user interfaces

(d)   Logical Reasoning Tests

Logical reasoning aptitude tests (also known as Critical Reasoning Tests) may be either verbal (word based, e.g. "Verbal Logical Reasoning"), numerical (number based, e.g. "Numerical Logical Reasoning") or diagrammatic (picture based, see diagrammatic tests for more information).

(e)   Verbal Reasoning Tests

Verbal reasoning tests are a form of aptitude test used by interviewers to find out how well a candidate can assess verbal logic. In a verbal reasoning test, you are typically provided with a passage, or several passages, of information and required to evaluate a set of statements by selecting one of the following possible answers.

7 Perceptual Speed Tests:

Perceptual speed is the ability to quickly and accurately compare letters, members, objects, pictures, or patterns. In tests of perceptual speed the things they compared many presented at the same time or one after the other. Candidates may also be asked to compare a presented object with a remembered object.

(ii)   Value of Aptitude Tests

Aptitude tests tell us what a student brings to the task regardless of the specific curriculum that the student has already experienced. The difference between aptitude and achievement tests is sometimes a matter of degree. Some aptitude and achievement tests look a lot alike. In fact, the higher a student goes in levels of education, the more the content of aptitude tests resembles achievement tests. This is because the knowledge that a student has already accumulated is a good predictor of success at advanced levels.

In addition, group aptitude tests--usually given as part of a group achievement battery of tests--can be given quickly and inexpensively to large numbers of children. Children who obtain extreme scores can be easily identified to receive further specialized attention. Aptitude tests are valuable in making program and curricula decisions.

- They are excellent predictors of future scholastic achievement.
- They provide ways of comparing a child's performance with that of other children in the same situation.
- They provide a profile of strengths and weaknesses.
- They assess differences among individuals.
- They have uncovered hidden talents in some children, thus improving their educational opportunities.
- They are valuable tools for working with handicapped children.

(iii)   How can we use aptitude test results?

In general, aptitude test results have three major uses:

(a)   Instructional

Teachers can use aptitude test results to adapt their curricula to match the level of their students, or to design assignments for students who differ widely. Aptitude test scores can also help teachers form realistic expectations of students. Knowing something about the aptitude level of students in a given class can help a teacher identify which students are not learning as much as could be predicted on the basis of aptitude scores. For instance, if a whole class were performing less well than would be predicted from aptitude test results, then curriculum, objectives, teaching methods, or student characteristics might be investigated.

(b)   Administrative

Aptitude test scores can identify the general aptitude level of a high school, for example. This can be helpful in determining how much emphasis should be given to college preparatory programs. Aptitude tests can be used to help identify students to be accelerated or given extra attention, for grouping, and in predicting job training performance.

(c)   Guidance

Guidance counselors use aptitude tests to help parents develop realistic expectations for their child's school performance and to help students understand their own strengths and weaknesses.

Activity:	Discuss with your course mate about their aptitudes towards teaching profession and analyze their opinions.

3.1.3   Attitude

Attitude is a posture, action or disposition of a figure or a statue. A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.

Attitude is the state of mind with which you approach a task, a challenge, a person, love, life in general. The definition of attitude is "a complex mental state involving beliefs and feelings and values and dispositions to act in certain ways". These beliefs and feelings are different due to various interpretations of the same events by various people and these differences occur due to the earlier mentioned inherited characteristics'.

(i)   Components of Attitude

1.   Cognitive Component:

It refers that's part of attitude which is related in general know how of a person, for example, he says smoking is injurious to health. Such type of idea of a person is called cognitive component of attitude.

2.   Effective Component:

 This part of attitude is related to the statement which affects another person. For example, in an organization a personal report is given to the general manager. In report he point out that the sale staff is not performing their due responsibilities. The general manager forwards a written notice to the marketing manager to negotiate with the sale staff.

3.   Behavioral Component:

The behavioral component refers to that part of attitude which reflects the intension of a person in short run or long run. For example, before the production and launching process the product. Report is prepared by the production department which consists of the intention in near future and long run and this report is handed over to top management for the decision.

(ii)   List of Attitude:

In the broader sense of the word there are only three attitudes, a positive attitude, a negative attitude, and a neutral attitude. But in general sense, an attitude is what it is expressed through. Given below is a list of attitudes that are expressed by people, and are more than personality traits which you may have heard of, know of, or might be even carrying them:

- Acceptance
- Confidence
- Seriousness
- Optimism
- Interest
- Cooperative
- Happiness
- Respectful
- Authority
- Sincerity
- Honest
- Sincere

Activity:	Develop an attitude scale for analyzing the factors motivating the prospective teachers to join teaching profession.

3.1.4 Intelligence Tests

Intelligence involves the ability to think, solve problems, analyze situations, and understand social values, customs, and norms. Two main forms of intelligence are involved in most intelligence assessments:

- <u>Verbal Intelligence</u> is the ability to comprehend and solve language-based problems; and

- <u>Nonverbal Intelligence</u> is the ability to understand and solve visual and spatial problems.

Intelligence is sometimes referred to as intelligence quotient (IQ), cognitive functioning, intellectual ability, aptitude, thinking skills and general ability.

While intelligence tests are psychological tests that are designed to measure a variety of mental functions, such as reasoning, comprehension, and judgment.

Intelligence test is often defined as a measure of general mental ability. Of the standardized intelligence tests, those developed by David Wechsler are among those most widely used. Wechsler defined intelligence as "the global capacity to act purposefully, to think rationally, and to deal effectively with the environment." While psychologists generally agree with this definition, they don't agree on the operational definition of intelligence (that is, a statement of the procedures to be used to precisely define the variable to be measured) or how to accomplish its measurement.

The goal of intelligence tests is to obtain an idea of the person's intellectual potential. The tests center around a set of stimuli designed to yield a score based on the test maker's model of what makes up intelligence. Intelligence tests are often given as a part of a battery of tests.

(i) Types of Intelligence Tests

Intelligence tests (also called instruments) are published in several forms:

- **(a)** **Group Intelligence tests** usually consist of a paper test booklet and scanned scoring sheets. Group <u>achievement tests</u>, which assess academic areas, sometimes include a cognitive measure. In general, group tests are not recommended for the purpose of identifying a child with a disability. In some cases, however, they can be helpful as a screening measure to consider whether further testing is needed and can provide good background information on a child's academic history.

- **(b)** **Individual intelligence tests** may include several types of tasks and may involve easel test books for pointing responses, puzzle and game-like tasks, and question and answer sessions. Some tasks are timed.

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(c) **Computerized tests** are becoming more widely available, but as with all tests, examiners must consider the needs of the child before choosing this format.

(d) **Verbal tests** evaluate your ability to spell words correctly, use correct grammar, understand analogies and analyze detailed written information. Because they depend on understanding the precise meaning of words, idioms and the structure of the language they discriminate very strongly towards native speakers of the language in which the test has been developed. If you speak English as a second language, even if this is at a high standard, you will be significantly disadvantaged in these tests. There are two distinct types of verbal ability questions, those dealing with spelling, grammar and word meanings, and those that try to measure your comprehension and reasoning abilities. Questions about spelling, grammar and word meanings are speed tests in that they don't require very much reasoning ability. You either know the answer or you don't.

(e) **Non-verbal tests** are comprised of a variety of item types, including series completion, codes and analogies. However, unlike verbal reasoning tests, none of the question types requires learned knowledge for its solution. In an educational context, these tests are typically used as an indication of a pupil's ability to understand and assimilate novel information independently of language skills. Scores on these tests can indicate a pupil's ability to learn new material in a wide range of school subjects based on their current levels of functioning.

(ii)   Advantages

In general, intelligence tests measure a wide variety of human behaviours better than any other measure that has been developed. They allow professionals to have a uniform way of comparing a person's performance with that of other people who are similar in age. These tests also provide information on cultural and biological differences among people.

Intelligence tests are excellent predictors of on academic achievement and provide an outline of a person's mental strengths and weaknesses. Many times the scores have revealed talents in many people, which have led to an improvement in their educational opportunities. Teachers, parents, and psychologists are able to devise individual curricula that matches a person's level of development and expectations.

(iii)   Disadvantages

Some researchers argue that intelligence tests have serious shortcomings. For example, many intelligence tests produce a single intelligence score. This single score is often inadequate in explaining the multidimensional.

Another problem with a single score is the fact that individuals with similar intelligence test scores can vary greatly in their expression of these talents. It is important to know the

person's performance on the various subtests that make up the overall intelligence test score. Knowing the performance on these various scales can influence the understanding of a person's abilities and how these abilities are expressed. For example, two people have identical scores on intelligence tests. Although both people have the same test score, one person may have obtained the score because of strong verbal skills while the other may have obtained the score because of strong skills in perceiving and organizing various tasks.

Furthermore, intelligence tests only measure a sample of behaviors or situations in which intelligent behavior is revealed. For instance, some intelligence tests do not measure a person's everyday functioning, social knowledge, mechanical skills, and/or creativity. Along with this, the formats of many intelligence tests do not capture the complexity and immediacy of real-life situations. Therefore, intelligence tests have been criticized for their limited ability to predict non-test or nonacademic intellectual abilities. Since intelligence test scores can be influenced by a variety of different experiences and behaviors, they should not be considered a perfect indicator of a person's intellectual potential.

> *Activity:*
>
> ***Discuss with your course mate about the intelligence testing and identify the methods used to measure intelligence, and make a list of problems in measuring intelligence***

3.1.5   Personality Tests

Your personality is what makes you who you are. It's that organized set of unique traits and characteristics that makes you different from every other person in the world. Not only does your personality make you special, it makes you!?

> *"The particular pattern of behavior and thinking that prevails across time and contexts, and differentiates one person from another."*

The goal of psychologists is to understand the causes of individual differences in behavior. In order to do this one must firstly identify personality characteristics (often called personality traits), and then determine the variables that produce and control them. A personality trait is assumed to be some enduring characteristic that is relatively constant as opposed to the present temperament of that person which is not necessarily a stable characteristic. Consequently, trait theories are specifically focused on explaining the more permanent personality characteristics that differentiate one individual from another. For example, things like being; dependable, trustworthy, friendly, cheerful, etc.

A personality test is completed to yield a description of an individual's distinct personality traits. In most instances, your personality will influence relationships with your family, friends, and classmates and contribute to your health and well being. Teachers can administer a personality test in class to help your children discover their strengths and developmental needs. The driving force behind administering a

personality test is to open up lines of communication and bring students together to have a higher appreciation for one another. A personality test can provide guidance to teachers of what teaching strategies will be the most effective for their students. Briefly p*ersonality test can benefit your students by:*

- Increasing productivity

- Get along better with classmates

- Help students realize their full potential

- Identify teaching strategies for students

- Help students appreciate other personality types.

(i)   Types of Personality Tests

Personality tests are used to determine your type of personality, your values, interests and your skills. They can be used to simply assess what type of person you are or, more specifically, to determine your aptitude for a certain type of occupation or career.

There are many different types of personality tests such as self report inventory, Likert scale and projective tests.

(a)   Self-report Inventory

A self-report inventory is a type of psychological test often used in personality assessment. This type of test is often presented in a paper-and-pencil format or may even be administered on a computer. A typical self report inventory presents a number of questions or statements that may or may not describe certain qualities or characteristics of the test subject.

Chances are good that you have taken a self-report inventory at some time the past. Such questionnaires are often seen in doctors' offices, in on-line personality tests and in market research surveys. This type of survey can be used to look at your current behaviors, past behaviors and possible behaviors in hypothetical situations.

(i)   Strengths and Weaknesses of Self-Report Inventories

Self-report inventories are often good solution when researchers need to administer a large number of tests in relatively short space of time. Many self report inventories can be completed very quickly, often in as little as 15 minutes. This type of questionnaire is an affordable option for researchers faced with tight budgets.

Another strength is that the results of self report inventories are generally much more reliable and valid. Scoring of the tests a standardized and based on norms that have been previously established.

However, self report inventories do have their weaknesses. Such as people are able to exercise deception while taking self report tests (Anastasi & Urbina, 1997).

Another weakness is that some tests are very long and tedious. For example, the MMPI takes approximately 3 hours to complete. In some cases, test respondents may simply lose interest and not answer questions accurately. Additionally, people are sometimes not the best judges of their own behavior. Some individuals may try to hide their own feelings, thoughts and attitudes.

(ii)   Types of Self Reports

- **Myers-Briggs Inventory**
  First designed to help suite people's personality to jobs
  identifies 'type' of person not 'traits' in people

- **MMPI & MMPI-2**
  used to assess personality and mental health

- **16 Personality Factor Questionnaire**
  identifies a person's traits

- **The Big Five**
  identifies on a scale of five traits where a person sits

(b)   Likert Scale

A Likert Scale is a type of psychometric scale frequently used in psychology questionnaires. It was developed by and named after organizational psychologist Rensis Likert. A Likert item is simply a statement which the respondent is asked to evaluate according to any kind of subjective or objective criteria; generally the level of agreement or disagreement is measured. It is considered symmetric or "balanced" because there are equal amounts of positive and negative positions. Often five ordered response levels are used, although many psychometricians advocate using seven or nine levels.

The format of a typical five-level Likert item, for example, could be:

1. Strongly disagree

2. Disagree

3. Uncertain

4. Agree

5.   Strongly Agree

Likert scaling is a bipolar scaling method, measuring either positive or negative response to a statement. Sometimes an even-point scale is used, where the middle option of "Neither agree nor disagree" is not available. This is sometimes called a "forced choice"

method, since the neutral option is removed. The neutral option can be seen as an easy option to take when a respondent is unsure, and so whether it is a true neutral option is questionable. It has been shown that when comparing between a 4-point and a 5-point Likert scale, where the former has the neutral option unavailable, the overall difference in the response is negligible.

(c) Projective tests

A **projective test** is a personality test designed to let a person respond to ambiguous stimuli, presumably revealing hidden emotions and internal conflicts. In psychology, a projective test is a type of personality test in which the individual offers responses to ambiguous scenes, words or images. This type of test emerged from the psychoanalytic school of thought, which suggested that people have unconscious thoughts or urges. These projective tests were intended to uncover such unconscious desires that are hidden from conscious awareness.

(i) How Do Projective Test Work?

In many projective tests, the participant is shown an ambiguous image and then asked to give the first response that comes to mind. The key to projective tests is the ambiguity of the stimuli. According to the theory behind such tests, clearly defined questions result in answers that are carefully crafted by the conscious mind. By providing the participant with a question or stimulus that is not clear, the underlying and unconscious motivations or attitudes are revealed.

(ii) Types of Projective Tests

There are a number of different types of projective tests. The following are just a few examples of some of the best-known projective tests.

(a) The Rorschach Inkblot Test

The Rorschach Inkblot was one of the first projective tests and continues to be one of the best-known. Developed by Swiss psychiatrist Hermann Rorschach in 1921, the test consists of 10 different cards that depict an ambiguous inkblot. The participant is shown one card at a time and asked to describe what he or she sees in the image. The responses are recorded verbatim by the tester. Gestures, tone of voice and other reactions are also noted. The results of the test can vary depending on which of the many existing scoring systems the examiner uses.

(b) The Thematic Apperception Test (TAT)

In the Thematic Apperception Test, an individual is asked to look at a series of ambiguous scenes. The participant is then asked to tell a story describing the scene, including what is happening, how the characters are feeling and how the story will end. The examiner then scores the test based on the needs, motivations and anxieties of the main character as well as how the story eventually turns out.

(iii)   Strengths and Weaknesses of Projective Tests

- Projective tests are most frequently used in therapeutic settings. In many cases, therapists use these tests to learn qualitative information about a client. Some therapists may use projective tests as a sort of icebreaker to encourage the client to discuss issues or examine thoughts and emotions.

- While projective tests have some benefits, they also have a number of weaknesses and limitations. For example, the respondent's answers can be heavily influenced by the examiner's attitudes or the test setting. Scoring projective tests is also highly subjective, so interpretations of answers can vary dramatically from one examiner to the next.

Activity: Apply the projective tests to any class and analyze the traits of students which differ them with each other.

3.1.6   Norm-referenced Tests and Criterion-Referenced Tests

Tests can be categorized into two major groups: norm-referenced tests and criterion-referenced tests. These two tests differ in their intended purposes, the way in which content is selected, and the scoring process which defines how the test results must be interpreted.

(a)   Definition of Norm-Referenced Test

Norm-referenced tests are made with compare test takers to each other. On an NRT driving test, test-takers would be compared as to who knew most or least about driving rules or who drove better or worse. Scores would be reported as a percentage rank with half scoring above and half below the mid-point.

This type of test determines a student's placement on a normal distribution curve. Students compete against each other on this type of assessment. This is what is being referred to with the phrase, 'grading on a curve'.

(b)   Definition of Criterion-Referenced Tests

Criterion-referenced tests are intended to measure how well a person has learned a specific body of knowledge and skills.

Criterion-referenced test is a term which is used daily in classes. These tests assess specific skills covered in class.

Criterion-referenced tests measure specific skills and concepts. Typically, they are designed with 100 total points possible. Students are earned points for items completed correctly. The students' scores are typically expressed as a percentage. Criterion-referenced tests are the most common type of test teacher's use in daily classroom work.

(c)   Norm- Reference V.S Criterion-Referenced Testing

Norm-referenced tests compare an examinee's performance to that of other examinees. Standardized examinations such as the SAT are norm-referenced tests. The goal is to rank the set of examinees so that decisions about their opportunity for success can be made.

Criterion-referenced tests differ in that each examinee's performance is compared to a pre-defined set of criteria or a standard. The goal with these tests is to determine whether or not the candidate has the demonstrated mastery of a certain skill or set of skills. These results are usually "pass" or "fail" and are used in making decisions about job entry, certification, or licensure. A national board medical exam is an example of a Criterion Reference Test. Either the examinee has the skills to practice the profession, in which case he or she is licensed, or does not.

(i)   Purposes of Criterion and Norm – Reference testing

The major reason for using a norm-referenced test is to classify students. Norm Reference Tests are designed to highlight achievement differences between and among students to produce a dependable rank order of students across a continuum of achievement from high achievers to low achievers. School systems might want to classify students in this way so that they can be properly placed in remedial or gifted programs. These types of tests are also used to help teachers select students for different ability level reading or mathematics instructional groups.

With norm-referenced tests, a representative group of students is given the test prior to its availability to the public. The scores of the students who take the test after publication are then compared to those of the norm group.

While norm-referenced tests ascertains the rank of students, criterion-referenced tests determine what test takers can do and what they know, not how they compare to others

Criterion Reference Tests report how well students are doing relative to a pre-determined performance level on a specified set of educational goals or outcomes included in the school, district, or state curriculum.

Educators or policy makers may choose to use a Criterion Reference Test when they wish to see how well students have learned the knowledge and skills which they are expected to have mastered. This information may be used as one piece of information to determine how well the student is learning the desired curriculum and how well the school is teaching that curriculum.

Both Norm Reference Tests and Criterion Reference Tests can be standardized. The U.S. Congress, Office of Technology Assessment defines a standardized test as one that uses uniform procedures for administration and scoring in order to assure that the results from different people are comparable. Any kind of test--from multiple choices to essays or oral examinations--can be standardized if uniform scoring and administration are used. This means that the comparison of student scores is possible. Thus, it can be assumed that two students who receive the identical scores on the same standardized test demonstrate

corresponding levels of performance. Most national, state and district tests are standardized so that every score can be interpreted in a uniform manner for all students and schools.

(ii)   Comparison of CRT/NRT Characteristics

Criterion-Referenced Tests	Norm-Referenced Tests
• To determine whether each student has achieved specific skills or concepts based on standards. • Measures specific skills which make up a designated curriculum. These skills are identified by teachers and curriculum experts • Each individual is compared with a preset standard for acceptable achievement. The performance of other examinees is irrelevant. • Student's score is usually expressed as a percentage. Student achievement is reported for individual skills.	• To rank each student with respect to the achievement of others in order to discriminate between high and low achievers. • Measures broad skill areas sampled from a variety of textbooks, syllabi, and the judgments of curriculum experts. • Each individual is compared with other examinees and assigned a score--usually expressed as a percentile. Student achievement is reported for broad skill areas, although some norm-referenced tests do report student achievement for individual skills

(iii)   Advantage of Criterion Referenced Test

Following are the major advantages of criterion referenced tests:

First, students are only tested on their knowledge of specific goals or standards. For example, if you had taught a lesson on adding fractions, you will give the student a test on adding fractions. If he or she scores 85% that means that that particular student has learned 85% of that goal. If a student does not score particularly well, then the teacher can adjust their instruction accordingly.

Another benefit is that if students do not seem to master a particular standard, the teacher will be able to go back and teach that standard again until the student performs better.

(iv)   Disadvantages of Criterion-Referenced Tests

Criterion-referenced tests have some built-in disadvantages. Creating tests that are both valid and reliable requires fairly extensive and expensive time and effort. In addition, results cannot be generalized beyond the specific course or program. Such tests may also

be compromised by students gaining access to test questions prior to exams. Criterion-referenced tests are specific to a program and cannot be used to measure the performance of large groups.

(v)   Advantages of Norm reference Test

The advantage of a norm-referenced test is that it shows us how our student is doing related to other students across the country. They are good for using the placement of students at the beginning and then again four or six months later, or at the end of the year. This will show growth over the period of the time.

Norm-referenced tests along with informal observational evaluation are useful for showing student growth over time. They aren't to be used for grading though they can be one element in a total grade. One must remember we can't expect great growth, if any, over short periods of times, particularly as shown on a norm-referenced test.

(v)   Disadvantage of Norm Reference test

An obvious disadvantage of norm-referenced tests is that it cannot measure progress of the population as a whole, only where individuals fall within the whole. Thus, only measuring against a fixed goal can be used to measure the success of an educational reform program which seeks to raise the achievement of all students against new standards which seek to assess skills beyond choosing among multiple choices. However, while this is attractive in theory, in practice the bar has often been moved in the face of excessive failure rates, and improvement sometimes occurs simply because of familiarity with and teaching to the same test.

Activity:	Discuss with your course mate about characteristics of norm and criterion referenced tests and prepare a report about their usability.

3.2   Techniques

3.2.1   Questionnaire

A questionnaire is a <u>research</u> instrument consisting of a series of <u>questions</u> and other prompts for the purpose of gathering information from respondents. Although they are often designed for <u>statistical</u> analysis of the responses, this is not always the case.

A questionnaire is a list of written questions that can be completed in one of two basic ways

Firstly, respondents could be asked to complete the questionnaire with the researcher not present. This is a postal questionnaire and (loosely) refers to any questionnaire that a respondent completes without the aid of the researcher.