Course Six (6) – Assessment for Learning

Unit I :Concept of Assessment

a) Meaning, Nature and Functions of Assessment

b) Perspectives of Assessment: Assessment for learning, Assessment of learning & Assessment as

  learning.

c) Types of Assessment: Meaning & Features (Placement, Formative, Diagnostic and Summative)

d) Continuous and Comprehensive Assessment (Meaning, Characteristics and Significance)

a) Meaning, Nature and Functions of Assessment

Meaning –
Definitions

Assessment involves the use of empirical data on student learning to refine programs and improve student learning. (Assessing Academic Programs in Higher Education by Allen 2004)

Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences; the process culminates when assessment results are used to improve subsequent learning. (Learner-Centered Assessment on College Campuses: shifting the focus from teaching to learning by Huba and Freed 2000)

Assessment is the systematic basis for making inferences about the learning and development of students. It is the process of defining, selecting, designing, collecting, analyzing, interpreting, and using information to increase students' learning and development. (Assessing Student Learning and Development: A Guide to the Principles, Goals, and Methods of Determining College Outcomes by Erwin 1991)

Assessment is the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development. (Assessment Essentials: planning, implementing, and improving assessment in higher education by Palomba and Banta 1999)

Nature of assessment

Assessment is embedded in the learning process. It is tightly interconnected with curriculum and instruction. As teachers and students work towards the achievement of curriculum outcomes, assessment plays a constant role in informing instruction, guiding the student's next steps, and checking progress and achievement.

- Classroom assessment involves students and teachers in continuous monitoring of students' learning.
- It gives students a measure of their progress as learners.
- It provides opportunity for close observation of students in the process of learning.
- It helps in collection of frequent feedback on students' learning and how they respond to particular teaching approaches.
- Assessment has profound impact on the self-esteem of pupils, which is critical influence on learning.
- Uses variety of strategies
- Thus 'assessment' includes all those activities undertaken by teachers, and by their students in assessing themselves, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged
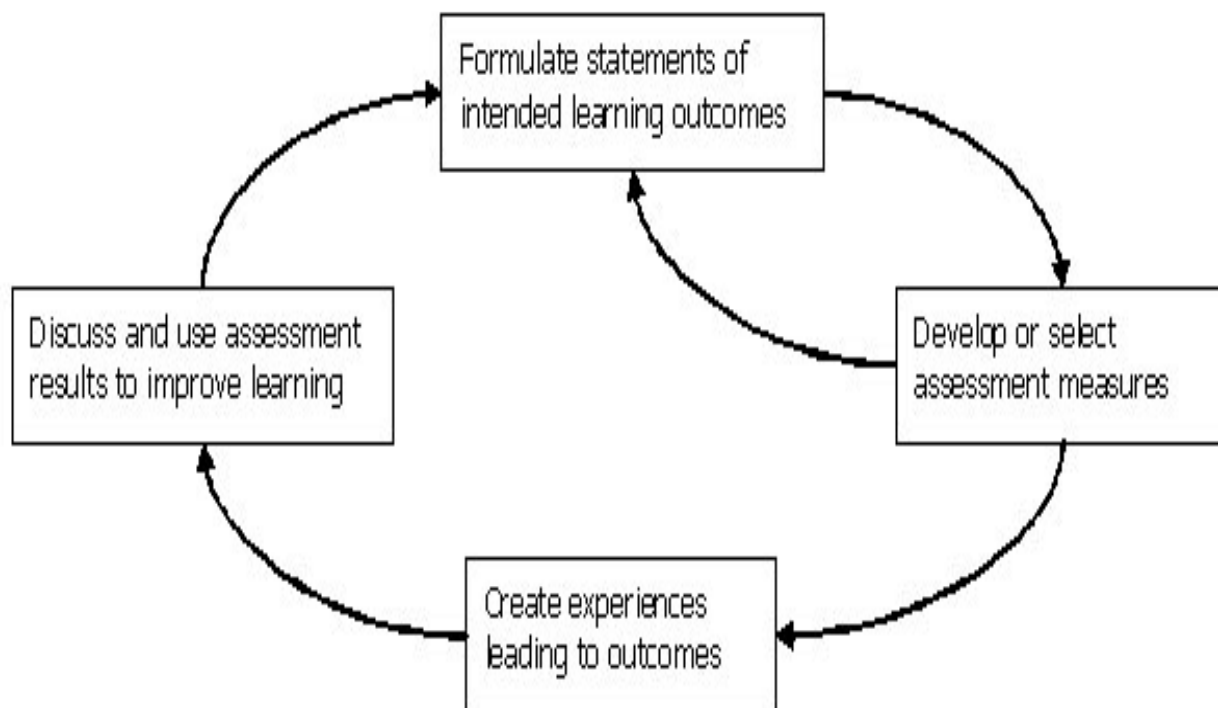
Four fundamental elements of learner-centred assessment

a)Functions of assessment-
Monitoring the progress
Decision making
Screening
Diagnostic process
Placement of students in remedial courses
Instructional planning
Evaluation of instructional programme
Feedback
Motivation

b) Perspectives of Assessment:
Assessment for learning,
Assessment of learning,
Assessment as learning.

Assessment *for* learning: where assessment helps teachers gain insight into what students understand in order to plan and guide instruction, and provide helpful feedback to students.

Assessment *as* learning: where students develop an awareness of how they learn and use that awareness to adjust and advance their learning, taking an increased responsibility for their learning.

Assessment *of* learning: where assessment informs students, teachers and parents, as well as the broader educational community, of achievement at a certain point in time in order to celebrate success, plan interventions and support continued progress.

Assessment of learning:

Assessment OF learning is the use of a task or an activity to measure, record and report on a student's level of achievement in regards to specific learning expectations.

Assessment that is accompanied by a number or letter grade, compares one student's achievement with standards, results can be communicated to the student and parents, occurs at the end of the learning unit

Assessment as learning

Assessment AS learning is the use of a task or an activity to allow students the opportunity to use assessment to further their own learning.

Self and peer assessments allow students to reflect on their own learning and identify areas of strength and need.

These tasks offer students the chance to set their own personal goals and advocate for their own learning

It begins as students become aware of the goals of instruction and the criteria for performance involves goal-setting, monitoring progress, and reflecting on results implies student ownership and responsibility for moving his or her thinking forward (metacognition) occurs throughout the learning process

Assessment for learning

Assessment for Learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there.

- In classrooms where assessment for learning is practised, students are encouraged to be more active in their learning and associated assessment.
- The ultimate purpose of assessment for learning is to create self-regulated learners who can leave school able and confident to continue learning throughout their lives.
- Students are guided on what they are expected to learn and what quality work looks like.
- The teacher will work with the student to understand and identify any gaps or misconceptions
- Teachers are now afforded the chance to adjust classroom instruction based upon the needs of the students.
- Verbal or written feedback to the student is primarily descriptive and emphasizes strengths, identifies challenges, and points to next steps as teachers check on understanding they adjust their instruction to keep students on track
- no grades or scores are given - record-keeping is primarily anecdotal and descriptive, occurs throughout the learning process, from the outset of the course of study to the time of summative assessment

Assessment for learning
   helps teacher….
   gather information to:

   plan and modify teaching and learning programmes for individual students, groups of students, and the class as a whole

   pinpoint students' strengths so that both teachers and students can build on them
   identify students' learning needs in a clear and constructive way so they can be addressed

   involve parents, families in their children's learning.

Assessment for learning
provides students….

with information and guidance so they can plan and manage the next steps in their learning.

Thus Assessment for learning uses information to lead from what has been learned to what needs to be learned next.

Assessment for learning should use a range of approaches.
These may include:
- day-to-day activities, such as learning conversations
- a simple mental note taken by the teacher during observation
- student self and peer assessments
- a detailed analysis of a student's work
- assessment tools, which may be written items, structured interview questions, or items teachers make up themselves.

What matters most is not so much the form of the assessment, but how the information gathered is used to improve teaching and learning.

Principles of Assessment for Learning-

1. **Assessment for learning should be part of effective planning of teaching and learning**
2. **Assessment for learning should focus on how students learn- Learners should become as aware of the 'how' of their learning as they are of the 'what'.**
3. **Assessment for learning should be recognised as central to classroom practice**
4. **Assessment for learning should be regarded as a key professional skill for teachers**
5. **Assessment for learning should be sensitive and constructive because any assessment has an emotional impact on a learner.**
6. **Assessment should take account of the importance of learner motivation**
7. **Assessment for learning should promote commitment to learning goals and a shared understanding of the criteria by which they are assessed**
8. **Learners should receive constructive guidance about how to improve**
9. **Assessment for learning develops learners' capacity for self-assessment so that they can become reflective and self-managing**
10. **Assessment for learning should recognise the full range of achievements of all learners**

Assessment of Learning v/s Assessment for Learning

c) Types of Assessment: Meaning & Features

On the basis of how it is used and how the results are interpreted, assessment is classified into different types.
1. Placement Assessment
2. Formative Assessment
3. Diagnostic Assessment
4. Summative Assessment

Placement Assessment- Meaning and features
In this type of assessment , learner's entry behaviour or capability is assessed to find out whether the student possess knowledge , skills and attitude needed to begin the course of instruction.
- It is used to find out to what extent student has already mastered the objectives of the planned instruction.
- assessment made to determine what a student does and does not know about a topic

- assessment made to determine a student's learning style or preferences
- used to determine how well a student can perform a certain set of skills related to a particular subject or group of subjects
- occurs at the beginning of a unit of study
- used to inform instruction: makes up the initial phase of assessment for learning
- attempts to quantify what students already know about a topic.

Formative assessment- Meaning and features

It is an assessment used to monitor students' learning progress during instruction with the purpose of providing on-going feedback to students and teachers regarding success and failure of teaching and learning.

- Formative assessment is an integral part of teaching and learning.
- It does not contribute to the final mark given for the module; instead it contributes to learning through providing feedback.
- Focuses on modular analysis of the content and instruction
- Seeks to identify influential variables
- Design is quite flexible
- Monitors teaching learning strategy during instruction
- Aims at attainment of specific objectives from different domains of development.
- Feedback to the learner is immediate (or nearly so), to enable the learner to change his/her behaviour and understandings right away.
- Formative Assessment also enables the teacher to rethink instructional strategies, activities, and content based on student understanding and performance. His/her role here is comparable to that of a coach.
- Formative Assessment can be as informal as observing the learner's work or as formal as a written test.
- Formative Assessment is the most powerful type of assessment for improving student understanding and performance.

Summative assessment-Meaning and features

Summative assessment demonstrates the extent of a learner's success in meeting the assessment criteria used to gauge the intended learning outcomes of a module or programme, and which contributes to the final mark given for the module.

It is normally, though not always, used at the end of a unit of teaching.

Summative assessment is used to quantify achievement, to reward achievement, to provide data for selection (to the next stage in education or to employment).

For all these reasons the validity and reliability of summative assessment are of the greatest importance.

Summative assessment can provide information that has formative/diagnostic value.

- Concerned with judgements about the merits of an already completed programme.
- Comes at the end of a course or term.
- Terminal assessment of the learners' performance.
- Determines the extent to which broad objectives are achieved.
- Feedback to the classroom teacher for the success or failure of the programme of instruction.

Diagnostic assessment-Meaning and features

Like formative assessment, diagnostic assessment is intended to improve the learner's experience and their level of achievement.

This type of assessment is concerned with finding out the reasons for students' persistent or recurring learning difficulties and plan to take remedial actions.

However, diagnostic assessment looks backwards rather than forwards.

- It assesses what the learner already knows and/or the nature of difficulties that the learner might have, which, if undiagnosed, might limit their engagement in new learning.
- It is often used before teaching or when a problem arises.

- Observational techniques or specially prepared diagnostic techniques can be used to diagnose problems.
- Feedback as diagnostic information is of great importance to students.
- The diagnostic feedback can help students in understanding what learning objectives have not been achieved and need additional work.
- Such types of feedback enable students to set specific learning goals and improve their learner autonomy.
- This feedback can help teachers better attain teaching objectives and make relevant instructional adjustments
- d) Continuous and Comprehensive Assessment (Meaning, Characteristics and Significance)

Meaning
Continuous and Comprehensive Assessment refers to a system of school based assessment that covers all aspects of student's development .

Continuity in assessment of broad based learning and behavioural outcomes.

Characteristics of CCA

The Continuous aspect

assessment at the beginning of instruction(placement)
assessment during the instructional process (formative)
 assessment of performance done at the end of a unit/term. (summative)

The 'comprehensive' component
takes care of assessment of the all round development of child's personality.
It includes assessment of Scholastic as well as Co-Scholastic aspects of the pupil's growth.

Characteristics of CCA

Assessment is done informally and formally.

Use of multiple techniques of assessment continually and periodically.

Assessment is done using multiple techniques on the basis of identified criteria / indicators.

 Significance of CCA

- CCA is thus a curricular initiative, attempting to *s*hift emphasis from memorizing to holistic learning.
- It helps develop cognitive, psychomotor and affective skills.
- It aims at creating citizens possessing sound values, appropriate skills and desirable qualities besides academic excellence.
- It is hoped that this will equip the learners to meet the challenges of life with confidence and success.
- Co-scholastic assessment will focus on holistic development that will lead to lifelong learning.

Significance of CCA

- It makes evaluation an integral part of teaching-learning process.
- It helps to use evaluation for improvement of students' achievement and teaching - learning strategies on the basis of regular diagnosis followed by remedial measures.
- It makes assessment a quality control devise to raise standards of performance.
- It helps to determine social utility, desirability or effectiveness of a programme and take appropriate decisions about the learner, the process of learning and the learning environment.
- To make the process of teaching and learning a learner-centered activity.

Unit 2: Domains of Assessment

a) Concept of learning outcomes
Assessment of Cognitive, Affective and Psychomotor domains of learning
b) Revised Blooms Taxonomy

Cognitive domain -Anderson and Krathwohl

Affective domain -Krathwohl

Psychomotor domain - Dr. R.H.Dave

c) Areas of Assessment: Scholastic and Co-Scholastic

Learning Outcomes (SPECIFICATIONS)

A stated desirable outcome before the students undergo a learning experience. It is stated in the form of an observable behavior. Thus it is also called behavioural objective. A behavioural objective specifies what the learner will be doing and contains a behavioural verb (action verb).They tend to be more specific than the non-behavioural ones and hence also known as specific objectives , specification or learning outcomes.

1. They specify an action by the student/learner that is *observable*

2. They specify an action by the student/learner that is *measurable*

3. They specify an action that is done by the *student/learner* (rather than the teachers)

CHARACTERISTICS

- The learning outcome should be learner focused
- The learning outcome should be precise
- The learning outcome must be observable
- The learning outcome should be measurable
- The learning outcome should be realistic
- The learning outcome must be flexible
- The learning outcome should be time-bound etc.

Effectively developed expected learning outcome statements should possess all of these characteristics.

The statement of learning outcome contains the task to be performed, criteria for performing the task and conditions for performance. Some examples are:

REMEMBERING
The pupil recalls the parts of a flower.
The pupil recalls the concept of nouns.
The pupil recalls new words. (Lang)

UNDERSTANDING / COMPREHENSION(Lang)
i)   The pupil explains the laws of motion.
ii)   The pupil describes the principles of Buddhism.
iii)   The pupil lists the causes of revolutions
iv)   The pupil explains the central idea of the poem in his/her own words.(Lang)
v)   The pupil states the stages of letter-writing/composition. (Lang)
vi)   The pupil explains the theme of the poem / prose. (Lang)

APPLYING
i)   The pupil solves new sums on indices.
ii)   The pupil discusses the relevance of Gandhiji's philosophy in today's world.

SKILL
i)   The pupil performs the experiment on titration with precision and accuracy.
ii)   The pupil draws accurate diagrams.
iii)   The pupil constructs triangles accurately.
iv)   The pupil computes sums on indices speedily and accurately.

EXPRESSION (Lang)
The pupil writes an essay on the given topic.
APPRECIATION (Lang)
The pupil shares the emotions expressed in a passage.

Taxonomy of Educational Objectives
The word taxonomy is derived from the Greek word 'taxa' (taxis'-plural), which means 'arrangement', 'division'. It is originally associated with biology where it refers to system of classifying animals and plants typically by division, class, order.

In education it means systematic organization. Taxonomy of educational objectives is a hierarchical classification of human growth in a given domain of development.

Dr.Benjamin S.Bloom's (1956) initial attention was focused on the 'Cognitive Domain' which was the first published part of Bloom's Taxonomy, featured in the publication: 'Taxonomy of Educational Objectives: Handbook 1, The cognitive Domain' (Bloom, Engelhart, Furst, Hill, Krathwohl, 1956). The 'Taxonomy of Educational Objectives: Handbook II, The Affective Domain' (Bloom, Masia, Krathwohl) as the title implies, deals with the detail of the second domain, the 'Affective Domain', and was published in 1964. Various people suggested detail for the third' Psychomotor Domain', which explains why this domain detail varies in different representations of the complete Bloom Taxonomy. The three most popularly references versions of the Psychomotor Domain seem to be those of R.H.Dave (1967/70), E.J. Simpson (1966/72), and A.J.Harrow(1972).

Bloom categorized the cognitive and the affective domain into specifiable and observable learning objectives. For purpose of convenience the taxonomy was divided into three domains: Cognitive domain, Affective domain and Psychomotor domain.

COGNITIVE DOMAIN

It was prepared in 1956 by D.benjamin Bloom. In the 1990s Lorin Anderson and Krathwohl (former students of Bloom) revised the taxonomy. It emphasizes the development of the head. It deals with knowing, thinking and problem solving.
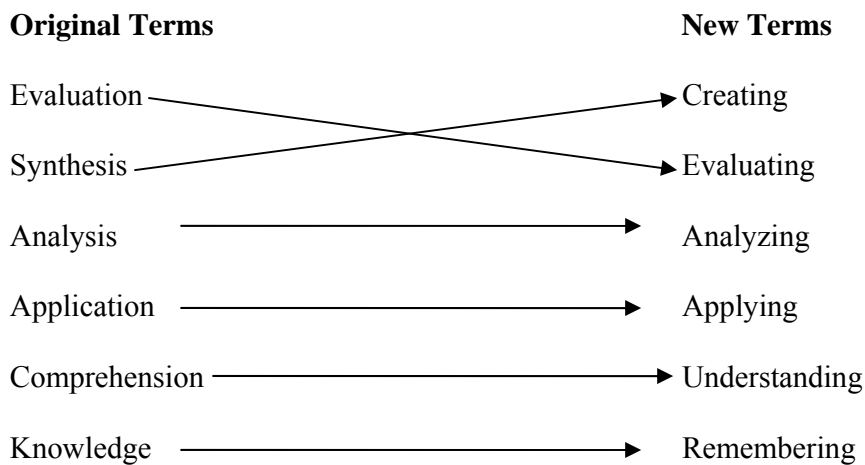
Means of expressing qualitatively different kinds of thinking.

Adapted for classroom use as a planning tool.

Continues to be one of the most universally applied models.

Provides a way to organize thinking skills into six levels, from the most basic to the higher order levels of thinking on the basis of complexity of tasks.

Revised Bloom's Taxonomy

Original Terms   **New Terms**

Evaluation ──────────────────▶ Creating

Synthesis ──────────────────▶ Evaluating

Analysis ──────────────────▶ Analyzing

Application ──────────────────▶ Applying

Comprehension ──────────────────▶ Understanding

Knowledge ──────────────────▶ Remembering

1. **Remembering**

   It is the process of recalling information, specifics and universals that has been previously learnt, recalling methods and processes or the recall of a pattern of structure or setting.

   It also involves recognition. I represents the lowest level of learning outcomes in the cognitive domain. E.g. Recognising, listing,retrieving,naming,finding.

2. **Understanding**

   It is the ability to grasp the meaning of the material and explaining ideas or concepts.
   It involves getting to the crux of the matter.
   It goes beyond simple understanding of the material and involves-
   Translation (converting into another form or medium),
   Interpretation (the action of explaining the meaning of facts, principles and theories)
   Extrapolation (use a fact valid for one situation to make conclusions about a different or wider situation)
   E.g. Interpreting, summarizing, paraphrasing, classifying, explaining

3. **Applying**

   It is the ability to use learned information in new and concrete situations.
   Learning outcomes in this area require a higher level of understanding than those under comprehension.
   E.g. Implementing, carrying out, using, executing.

4. **Analysing**

   It refers to the process of breaking down information into its component parts to explore understandings and relationships.
   Learning outcomes represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the organizational structure of the material.
   E.g. Comparing, organizing, finding, deconstructing, interrogating.

5. Evaluating

It is the process of judging the value of a material (poem, statement, novel, research project) for a given purpose.
It involves justifying a decision or course of action.
Judgements are to be based on some criteria.
It is the weighing of the pros and cons and reaching a decision.
It means judging without bias and prejudice and arriving at a conclusion.
E.g. Checking, hypothesizing, critiquing, experimenting, judging.

6. Creating
It is the process of creating new patterns or structures, generating new ideas, products, or ways of viewing things.
It involves putting together parts to form a new meaningful whole.
It includes production of a unique community, of a plan or proposed set of operations and derivation of a set of abstract relations.
E.g. Designing, constructing, planning, producing, inventing.

When learning different concepts these levels of the cognitive domain are clearly seen. E.g. Pupil first remembers the elements of the triangle. Then he/she develops understanding of the relationship between the different elements of the triangle. The pupil is then able to apply his knowledge to construct new triangles. When learning theorems on triangles the pupil analyses and evaluates the information. Later the pupil develops the abilities to create designs using the properties of triangles. Similarly other concepts like plants, solar system, constitution, grammar, etc. are learnt.

Affective Domain
It was prepared in 1964 by Dr.Bloom, Krathwohl and Masia. It emphasizes the development of the heart. It deals with values, attitudes, interest, appreciation, social and emotional adjustment. If the objectives of the affective domain are attended to and achieved, the evaluator will be in a position to predict the behavior of an individual.

Affective taxonomy is divided into five major classes arranged in a hierarchical order on the basis of the level of involvement.

Characterization
Organization
Valuating
Responding
Receiving
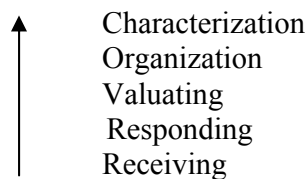
1. Receiving
Learner should be sensitized to the existence of certain phenomenon and stimuli in his environment. This includes awareness, willingness to receive and give controlled or selected attention. (Ability to discriminate the stimuli)

2. Responding (Interest objective)
This is with response that goes beyond merely attending to phenomena.
A person is actively involved in attending to them.
This involves responding, willingness to respond and satisfaction in response.
The person attaches emotional significance to the stimuli.

3. **Valuating**
   Stage of internalization-becomes part of the person.
   This includes acceptance of a value, preference for a value and commitment to a goal,idea or belief or a conviction in regard to a point of view.
   Consistence in behavior, which can be predicted.
   Forms principles of life and behavior is based on it.

4. **Organisation**
   For situations where more than one value is relevant the need arises for
   The organization of the value into a system
   The determination of the interrelationship among them and
   The establishment of the dominant and pervasive value.

5. **Characterisation by a value or value complex**
   Organization becomes part of the personality and develops his personality-characterisation.
   At this level the already existing values are organized into some kind of an internally consistent system and control the behavior of an individual who attains an integration of his beliefs and attitudes into a total philosophy.

   This organization of values which control his behavior is called value complex. Values like honesty, truthfulness, friendship develop through these levels of the affective domain. A child first receives a variety of stimuli from his environment. He begins to respond to those which interest and attract him. He always speaks the truth and is honest. He may like to interact with friends. He then valuates these emotions, feelings and values based on his experiences and rewards and punishments received. The values of truthfulness, honesty and friendship will be assigned some significance. The values which are of importance to him will be placed higher up on the hierarchy and those which are of less value go down, thus creating an organization of values. The individual will then behave in different situations according to his / her value organization. So much so that gradually they become a part of his personality and define his/her character.

   PSYCHOMOTOR DOMAIN

   It was prepared in 1967/70 by Dr.R.H.Dave. It emphasizes the development of the hand. It deals with the proficiency in neuro-muscular development and coordination. It includes with development of manipulative or motor skills.

   Psychomotor domain is divided into five major classes arranged in a hierarchical order on the basis of the level of proficiency.

   Naturalization
   Articulation
   Precision
   Manipulation
   Imitation
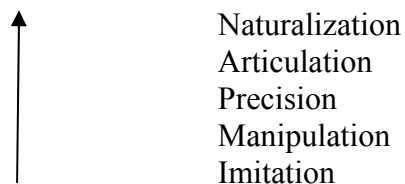
   Imitation

   Imitation of an action or performance, which are not observable.
   Initially crude and lacks coordination.

Manipulation of an act

Learner performs the act with instructions rather than just observation.
This includes differentiating among various movements, selecting the proper one and moving towards fixation.Actions require repetition for fixation.

Precision in reproducing a given act
This includes refinement, accuracy, proportion and exactness in performance.
Learner can perform without instruction and can control the speed.

Articulation among different acts
Many actions occur simultaneously and with equal proficiency.
This includes coordination, sequence and harmony among acts.

Naturalization
Pupil's skills attain its highest level of proficiency in performing an act with the least expenditure of psychic energy.
The act becomes so automatic that it is attended to unconsciously.
It becomes a habit and nature of the person.

The different skills like dancing, cooking, dramatics, driving, writing, reading, computer, swimming, etc. are learnt through these stages. For instance when learning to write children initially simply imitate the adults in their surrounding and scribble on paper. Later they learn to hold the pencil straight, position the book properly and learn to write. Initially their writing may not be clear but gradually they learn to write clearly. They then develop precision in writing. As they grow they are able to listen and write or think and write on their own. Soon writing becomes naturally a part of them which does not require any extra effort.

For the development of personality, the development of all the three domains is important. When all the three domains interact, it is called the 'tripartite structure'. However in education very often we emphasize on the cognitive domain more than the affective and psychomotor domain. For a balanced personality, development of all the three domains must occur.

Uses of taxonomies in evaluation

Analyze and classify objectives
Achieve all round development
Basis for comparison of syllabus
Decide the levels of objectives for different classes.
Reliable and valid evaluation procedures.
Guidelines to report the progress of a child.

Module II: Instruments of Assessment
Unit 3: Characteristics of Instruments of Assessment

a) Validity - different methods of finding validity

b) Reliability - different methods of finding reliability

c) Objectivity

d) Interdependence of validity, reliability and objectivity

a) Validity – Different methods of   finding validity

Meaning and Importance of Validity
- **1. Validity** is defined as the degree to which the instrument measures what it's supposed to measure.
- **2. Validity** refers to the degree in which test or other measuring device is truly measuring what we intended it to measure.

Different methods of finding validity
- Four types of validities can be checked to establish validity of the assessment instrument. They are
- content validity,
- concurrent validity,
- predictive validity and
- construct validity.
- Content Validity: Content validity is concerned with a test's ability to include or represent all of the content of a particular construct.
- There is no easy way to determine content validity aside from expert opinion.
- Content validity is also known as Relevance, Intrinsic Validity, Representativeness.
- Concurrent Validity: Concurrent Validity refers to a measurement device's ability to vary directly with a measure of the same construct or indirectly with a measure of an opposite construct.
- It allows you to show that your test is valid by comparing it with an already valid test.
- Predictive Validity: In order for a test to be a valid screening device for some future behavior, it must have predictive validity.
- Construct Validity: Construct validity refers to how well test seems to measure a hypothesised trait.

b) Reliability – Different methods of finding Reliability
- Reliability refers to whether an assessment instrument gives the same results each time it is used in the same setting with the same type of subjects.
- Reliability essentially means consistent or dependable results.
- Reliability is a part of the assessment of validity.
- There are four *general classes of reliability estimates*, each of which estimates reliability in a different way. They are:
- Test-Retest Reliability
- Parallel-Forms Reliability
- Split-half Method
- Method of Rational Equivalence
- Test-Retest Reliability: Test-Retest reliability refers to the test's consistency among different administrations. To determine the coefficient for this type of reliability, the same test is given to a group of subjects on at least two separate occasions.
- If the test is reliable, the scores that each student receives on the first administration should be similar to the scores on the second. We would expect the relationship between he first and second administration to be a high positive correlation.
- One major concern with test-retest reliability is what has been termed the memory effect.
- Parallel Forms Reliability: One way to assure that memory effects do not occur is to use a different pre- and post-test. In order for these two tests to be used in this manner, however, they must be parallel or equal in what they measure. To determine parallel forms reliability, a reliability coefficient is calculated on the scores of the two measures taken by the same group of subjects. Once again, we would expect a high and positive correlation is we are to say the two forms are parallel.

- Split Half Method: Here all the items of a test are divided into two equal parts and these two parts are administered at one time on a group simultaneously.
- Rational Equivalence Method: The chief tenet of this method is that the test should be such that it will measure only one quality. In this method the correlation of various items in the test and the correlation of the items and the whole test is found.

c) Objectivity

- Objectivity is a noun that means a lack of bias, judgment, or prejudice.
- Here, judgment is based on observable phenomena (verifiable data) and uninfluenced by emotions or personal prejudices
- An objective test measures a variable independent of the people conducting the test and the circumstances of the test. In other words, the test has to be fair.

d) Interdependence of validity, reliability and objectivity

- **Objectivity** is the broadest and thus is the outermost ring on the target. A test that is objective measures without reference to outside influences.
- Irrelevant, unrelated factors do not influence the test results if a test is objective.

- The middle ring is **reliability**. Before reliability can be considered, a test or assessment must first be objective. Objectivity is essential but not sufficient to ensure reliability. There are different types of reliability, but at its simplest, reliability is repeatability. A reliable measure is one that returns the same result each and every time.

- **Validity** is at the center of our target. A test must be both objective and reliable before its validity can be considered. Validity is the extent to which the test measures what it claims to measure. Unless items (questions) on a test are shown to be related to what is being assessed, the test cannot be valid. Validity also requires that a test fully assesses every aspect of a domain (or topic) it claims to assess.

Unit 4: Teacher made Achievement Tests
a) Relating test items and specific behavioural objectives

b) Preparation of Blue Print

c) Characteristics of a good test

(Practicals only)

Module III: Assessment of Diverse learners
UNIT 5: Differentiated Assessment Strategies
a) Meaning and purpose of Teacher assessment, Self assessment and Peer assessment

b) Criterion Referenced Tests and Norm Referenced tests (Meaning, Characteristics)

c) Meaning, purpose & guidelines of development:

i. Rubrics

ii. Portfolios

iii. Reflective Journal

Differentiated Assessment Strategies

Meaning of Differentiated Assessment Strategies

Differentiated assessment is an ongoing process of evaluation where the teacher gathers information and data **before, during and after instruction** to better facilitate the learning.
- ✓ Pre-assessment (**Before instruction**)
- ✓ Formative assessment (**During instruction**)
- ✓ Summative assessment (**After instruction**)

Purpose of differentiated assessment

- • This process ensures success for all students in the differentiated class with **data provided from a variety of sources assisting in giving an overall view of student achievement.**

Purpose of Pre- Assessment (Before instruction)

- ✓ To determine what a student does and does not know about a topic
- ✓ To determine a student's learning style or preferences
- ✓ To determine how well a student can perform a certain set of skills related to a particular subject or group of subjects
- ✓ To determine a student's knowledge and skills, including learning gaps as they progress through a unit of study
- ✓ To inform instruction and guide learning
- ✓ To make up the subsequent phase of assessment for learning
- ✓ To determine the level of understanding the student has achieved
- ✓ To mark or grade student's performance against an expected standard.

Tools and Techniques of differentiated assessment strategies

Tools	Techniques
✓ Questions	1. Examination
✓ Observation	2. Assignments
✓ Tests and inventories	3. Quizzes and competitions
✓ Checklist	4. Projects
✓ Rating scale	5. Debates
✓ Anecdotal records	6. Elocution
✓ Document analysis	7. Group discussions
✓ **Portfolio**	8. Club activities
✓ Experiments	
✓ Research	
✓ Rubrics	

Meaning and purpose of
- **Teacher assessment,**
- **Self assessment and**
- **Peer assessment**

Teacher Assessment

- ✓ Teacher assessment is the process undertaken by the teacher of systematic **collection, review, and use of information** about educational programs for the purpose of improving student learning and development.

- ✓ A process undertaken by the teacher on systematic basis for **making inferences about the learning and development of students**. It is the process of defining, selecting, designing, collecting, analyzing, interpreting, and using information to increase students' learning and development.

Purpose of Teacher Assessment

- To define, select, design, collect, analyze, interpret, and use information to increase students' learning and development.

Self Assessment

- ✓ **Self-assessment** is a process whereby student grade assignments or tests based on a teacher's benchmarks.
- ✓ Students assess their own contribution/performance as well as their peers using an established set of criteria.

Peer Assessment

- ✓ **Peer assessment** is a process whereby **peers** grade assignments or tests based on a teacher's benchmark.
- ✓ Students individually assess **each other's contribution/performance** using a predetermined list of criteria. Grading is based on a   predetermined process.

Purpose of Self and Peer Assessment

- ✓ To increase student **responsibility and autonomy**
- ✓ To strive for a more **advanced and deeper understanding** of the subject matter, skills and processes
- ✓ To lift the role and status of the student from passive learner to active leaner and assessor
- ✓ To involve students in critical reflection
- ✓ To develop in students a better understanding of their own subjectivity and judgement.

Meaning & Characteristics

- ✓ Criterion Referenced Tests and
- ✓ Norm Referenced tests

Criterion Referenced Tests

- A **criterion-referenced test** is one that provides for translating test scores into a statement about the behaviour to be expected of a person with that score or their relationship to a specified subject matter.

- Most tests and quizzes that are written by school teachers can be considered criterion-referenced tests.

Norm Referenced tests

- **A norm-referenced test** (NRT) is a type of test which yields **an estimate of the position of the tested individual in a predefined population**, with respect to the trait being measured.

- This type of test identifies whether the **test taker performed better or worse than other test takers**.

Criterion Referenced
Purpose

- To determine whether each student has achieved specific skills or concepts
  based on standards.

Content

- Measures specific skills which make up a designated curriculum. These skills are identified by teachers and curriculum experts.

Item Characteristics

- Each skill is tested by at least four items in order to obtain an adequate sample of student performance.

Score Interpretation

- A student's score is usually expressed as a percentage.

Norm Referenced tests

Purpose

- To rank each student with respect to the achievement of others in order to discriminate between high and low achievers.

Content

- Measures broad skill areas sampled from a variety of textbooks, syllabi, and the judgments of curriculum experts.

Item Characteristics

- Each skill is usually tested by less than four items. Items vary in difficulty. Items are selected that discriminate between high
  and low achievers.

Score Interpretation

- Each individual is compared with other examinees and assigned a score--usually expressed as a percentile.

Meaning, purpose & guidelines of development:

- **i. Rubrics**
- **ii. Portfolios**
- **iii. Reflective Journal**

Rubrics
- ✓ Rubrics: A set of instruction
- ✓ A tool developed by instructors to assess the performances (Qualitative data) of their students
- ✓ A measuring tool/scoring instrument to determine grades or the degree to which learning standards have been demonstrated or attained by students.

Meaning
- A rubric is typically an evaluation tool or set of guidelines used to promote the consistent application of learning expectations, learning objectives, or learning standards in the classroom, or to measure their attainment against a consistent set of criteria.

Purpose

1. To inform the students before they begin an assignment to ensure that learning expectations have been clearly communicated.
2. To define academic expectations for students and help to ensure consistency in the evaluation of academic work from student to student, assignment to assignment, or course to course.

Characteristics of Rubrics

1. Pre-planned tool
2. Pre-determined tool
3. Formative assessment
4. Comprehensive in nature

Where to use Rubrics?

- Projects
- Papers
- Portfolios
- Discussion
- Presentation
- Assignments
- Oral Presentation
- Artistic Performance

Four Important Terms To develop Rubrics

- Dimensions
- Levels
- Criteria
- Grading

Steps in preparing Rubric

1. Performance Objective
2. Dimensions
3. Gradation levels
4. Point Value
5. Criteria
6. Create Rubric

Importance of Rubrics

1. Learners – Helps them to reflect where they stand?
2. Teachers – Acts to help them reflect to modify their teaching learning strategies
3. Administrators – Helps them to frame policies to achieve the goals of education outlined by their organization.

Student Portfolio
- Student Portfolio is the cumulative assessment or collection of students work, samples, progress and achievement in one or more area.

Characteristics of Student Portfolio:

- Focused
- Samples of student's work
- Selective
- Reflective

Significance of Student Portfolio
- ✓ examine a broad range of their student's work collected over time
- ✓ analyze and assess their student's progress
- ✓ plan and manage student's time to complete the work
- ✓ integrate diverse experiences in and out of the classroom
- ✓ make decisions about future goals based on evidence and criteria

Advantages

Student Portfolio offers visual demonstration of Student's…
1. Achievement
2. Capabilities
3. Strengths
4. Weaknesses
5. Knowledge
6. Specific skills

Guidelines for developing portfolios

- ✓ Helping students develop a thorough understanding of the context, rationale, goals, and the overall components of portfolios.
- ✓ Helping students to develop an increasing level of student responsibility and independence.
- ✓ Ensuring that students understand the tasks by <u>providing instruction on portfolio requirements </u>as needed
- ✓ Helping students identify and work through their problems to solutions
- ✓ Fostering time management skills
- ✓ Fostering organizational skills
- ✓ Providing students regular feedback on their work and their portfolio process
- ✓ Serving as a resource of ideas for students

Reflective Journal

Meaning

Reflective journals are notebooks or pieces of paper that students use when writing about and reflecting on their own thoughts.

Purpose
- To facilitate thinking deeply and writing about a learning experience. This involves writing about:
- ✓ What happened (positive and negative).
- ✓ Why it happened, what it means, how successful it was.
- ✓ What you (personally) learned from the experience.

Guidelines of development of Reflective Journal

DESCRIBE

ANALYSE

EVALUATE

YOU

1. Describe: choose one part of the learning experience and write about what happened

2. Analyse: Explain what the learning experience means

3. Evaluate: Show how successful the learning experience was

This leads to self-knowledge

Examples

- ✓ Understanding learners' psychology
- ✓ Understanding the factors affecting discipline in class
- ✓ Teacher's ways to handle student s' responses
- ✓ Understanding the role of teacher as facilitator
- ✓ Understanding the role of the towards all the stakeholders

Student Portfolio

- **https://www.gallaudet.edu/clerc_center/information_and_resources/info_to_go/transition_to_adulthood/portfolios_for_student_growth.html**

UNIT 6: Modes of Assessment

a) Performance Tests: Oral & Practical assessment (merits, limitations, suggestions for improvement, criteria for evaluation)

b) Written Test- Essay & Objective type (merits, limitations, suggestions for improvement, criteria for evaluation)

c) Open Book Examination (Merits & demerits)

d) Online Examination (Merits & demerits)

Meaning of Oral Assessment

- It is a face-to-face question-answer activity between the teacher and the learner.
- examiner asks questions & examinee attempts to answer them.
- Finally, he / she judge the quality of the answer and grades / mark the examinee accordingly.

Objectives of an Oral Assessment

- To analyse pupil's presence of mind as exposed through oral questioning.
- To inculcate regular study habits.
- To shift the emphasis of mere transmission of knowledge to use and apply it.
- To remove fear and develop positive attitude towards evaluation procedures.

Merits of an Oral Assessment

- Helps the teacher to know the level of knowledge of the pupils.
- Good for young Children.
- Economical
- Helps in assessment of
  - oral expressions
  - pronunciation
  - recitation etc.

Limitations of an Oral Assessment

- Shy students are adversely affected.
- Low reliability
- Subjective – personal bias, favouritism etc.
- No record like written test.
- Time consuming.
- The questions put to different students may have a different difficult value.

Suggestions for improvement of an Oral Assessment

- Decide the objectives and the content to be evaluated.
- Evaluate only those objectives that cannot be evaluated by written test.
- Plan questions judiciously i.e., plan for the questions to be used and also for acceptable answers.
- Questions of almost equal difficulty value should be asked.

Criteria for evaluation – Oral Assessment

- Pronunciation
- Grammatical correctness
- Vocabulary and usage
- Delivery – to speak fluently.
- Manners and gestures
- Effect – to speak effectively.

Meaning of Practical Assessment

It is used for those subjects in which pupils are taught to follow specific procedure and / or create some products.

Need of Practical Assessment

1. Supplements the written examinations to provide comprehensive evidence of pupil's development.
2. Practical application of theory brings in realism.
3. Provides an opportunity for developing the fundamental skills related to vocations of a practical nature.
4. Develops manipulative skills.
5. Develop skills in observation and recording of data.

Merits of Practical Assessment

- Facilitates Learning by Doing
- Enhances psychomotor skills
- Better retention
- Builds up concentration power
- Emphasis on application of skills

Limitations of Practical Assessment

- Time consuming
- Not feasible for large groups
- Scope of manipulation
- Lack of skilled and trained teachers
- Requires practice

Suggestions for Practical Test

- Small groups (may be 5 to 7 students)
- Efficient and trained teachers
- Proper guidelines
- Neatness and cleanliness
- Constant supervision
- Ability to perform the given task
- Patience
- Feedback (how and why aspect)

Module IV Reporting Evaluation Results
UNIT 7: Feedback Mechanism & Reporting
a) Concept & Criteria of Constructive feedback.

Concept Constructive feedback.

- Constructive feedback is communication that brings to an individual's attention an area in which their performance could improve, in a manner that helps the individual understand and internalize the information.

- Constructive feedback does not focus on fault or blame; it is specific and is directed towards the action, not the person.

- Constructive Feedback is: Useful, Meaningful, Impactful, Easy to understand

- Constructive Feedback is not: Critical, Accusatory ,Vague.

Criteria of Constructive feedback

- **Content**
- What do you say?
- Be specific
- Relevant to the
- task
- Outcome
- student
- **Manner**
- How do you say?
- Correcting by example
- **Timing**
- When do you?
- Correcting immediately,
- Before student moves onto next task
- **Frequency**
- How frequently do you say?

b) **Reporting (Meaning and types of Reporting)**

Meaning of Reporting

- Reporting is the process of communicating information about student achievement and progress gained from the assessment process.

- The purpose of reporting is to support learning and teaching by providing feedback to students.

- Students' learning achievements and progress is reported to parents.

- Information about students' achievements is also be valuable for teacher for systematic planning of further learning activities

c) **Reporting (Meaning and types of Reporting)**

   Focus of Reporting

- What Students are Able to Do

- Areas That Require Further Attention or Development

- Ways to Support Students' Learning

   Types of Reporting

- Individual Parent/ Teacher Meeting

- An Individual Written Report Sent Home

- Parent Group Meetings

- Parent Newsletter Articles

Types of Reporting
 1) Individual Parent Teacher Meeting

- Parent/teacher meetings provide a good opportunity for teachers to explain assessment results to parents.

- Teachers can communicate the results of each individual student as well as the performance of the school as a whole.

- Teachers also can explain initiatives that have been undertaken to improve student learning.

- Parents can ask teachers questions about assessment and classroom activities.

-
   2) An Individual Written Report Sent Home
   A written report does not provide the face-to-face interaction of a parent/teacher meeting, but it can be an effective method for distributing assessment information.

- Educators must be sure that the report carefully describes the assessment process and clearly explains how to interpret the results.

- The report also should include a phone number that parents can call if they have any questions

   Parent Teacher Group Meetings

- An effective method for distributing assessment information in general of the entire class.

- Parent/teacher meetings provide a good opportunity for teachers to explain assessment results to parents.

- Teachers also can explain initiatives that have been undertaken to improve student learning.

- Parents can ask teachers questions about assessment and classroom activities.

4) Parent Newsletter Articles

- A parent newsletter is another means of distributing assessment information.
- Articles in such a newsletter can describe
  - ➢ the assessment process,
  - ➢ the scoring procedures,
  - ➢ the school's placement on an overall level, and
  - ➢ any initiatives that are being undertaken to improve future learning.
- Some articles can be written in the form of frequently asked questions, along with answers.
- The newsletter should convey that the real purpose of assessment is to improve teaching and learning

d) Reflective practices to improvise assessments towards raising the standards of quality of instructions.

Reflective practice is an inquiry-oriented process during which a teacher engages in a cycle of thought and subsequent action on professional experience.

- Donald Schon's reflection in action and reflection action.
- **Reflection in action** is to reflect on behavior as it happens,
- **Reflection on action** reflecting after the event, to review, analyze, and evaluate the situation.

Reflection in action	Aspects	What questions	Raising the standards of quality of Instructions
	Diagnostic	Where are the students having learning difficulties?	Plan and implement corrective measures i.e Remediation
	Feedback to teacher	What has the student achieved , understood or demonstrates? Who are the students who have few or no learning errors?	▪ Helps in ensuring learning has taken place ▪ Helps teacher make subtle changes in the learning process and reflect on planning ▪ Those students should receive enrichment activities to help broaden and expand their learning. ▪ Identify

			Materials designed for gifted and talented students provide an excellent resource for such activities.
	Feed back	Which questions did students do particularly well on? In what respects? Which questions did they struggle with? In what respects?	▪ Identify strengths of his/her teaching in those areas which can be repeated ▪ Teachers must present those concepts in new ways and engage students in different and more appropriate learning experiences.
	Feed back	What kind of tasks was their a variety of responses to? What did they teach well and what they need to work on? How many students failed to meet a specific criterion or item?	▪ Identify the creative ones and Work on enhancing creativity in students ▪ Identify their own strengths and weaknesses as a teacher ▪ Teachers need to identify their teaching problems i.e teaching strategy, examples, teaching aids

d) Statistical Application for interpretation and reporting : Mean, Median, Standard Deviation and Percentile Rank (Calculation and interpretation)

Calculation & Interpretation of   Mean, Median

Calculation of the Mean
Interpretation : Mean represents the average of the given distribution. Since the mean of the given distribution is for eg. 66.4, therefore, most of the scores lie around or concentrate around 66.4.

Calculation of Median
Interpretation : Median represents the midpoint of the given distribution. Since the median of the given distribution is for eg. 65.4, therefore, 50% of the scores lie above and 50% scores lie below 65.4 i.e for eg if N=40, 20 cases lie above and 20 cases lie below 65.4 and if N=45, 22 cases lie above and 23 cases lie below 65.4 OR 23 cases lie above and 22 cases lie below 65.4

Interpretation of Standard deviation wrt to Normal probability curve:
1. Calculation of Range (M±1σ) of the given distribution
2. Find the Number of cases that lie between (M±1σ)
3. Find the % of cases that lie between (M±1σ)

Interpretation: In NPC, 68.26% cases lie between (M±1σ). In *the given distribution for eg 74% cases lie between* (M±1σ), therefore the given distribution is not normal.

Interpretation of   Percentile Rank
Interpretation:
PR of Ravi's score is 60
PR of Rita's score is 70
i.e 60% students have scored below Ravi's score and 70% students have scored below Rita's score
Comparison:
40% of the students have scored above Ravi's score and 30% students have scored above Rita's score. This means lesser number of students have scored above Rita's score than Ravi. Therefore Rita's performance is better than Ravi's performance in the given test.

UNIT 8: Psycho-social concerns of Assessment
a) Implications on assessment:
  i.   No detention Policy (RTE Act, 2009)
  ii.   Competitive ranking of schools
  iii.   Profiteering by private agencies
Assignment: Comparative study of Assessment of different countries
  • What is No Detention Policy
    (RTE Act, 2009)
  • Under RTE Act 2009 there is 'No Detention Policy' up to Class VIII to achieve the goal of Universalization of Elementary Education (UEE) and to increase retention of children in schools by way of 'no pass – fail' system.
  • What is No Detention Policy
    (RTE Act, 2009)
  • According to this policy, no child will be detained from Classes I to VIII and promotion to next class will be given on the basis of their performance in various examinations and tests for formative and summative assessment provided, the child's attendance in the school is more than 75%.

- What is No Detention Policy
  (RTE Act, 2009)
- Also, appearing in unit tests and terminal examination is mandatory.
- IMPLICATIONS ON ASSESSMENT
- Continuous Comprehensive Evaluation (CCE) system was introduced as assessment process.
- Reluctance of teachers to implement CCE in true spirit is because of lots of other non-teaching and administrative work.
- IMPLICATIONS ON ASSESSMENT
- Repeated assessment for the sake of passing the students with no regard for truly helping the students to improve their learning.
- Student have developed a lackadaisical attitude – why study when there is no fear of failing.
- IMPLICATIONS ON ASSESSMENT
- Students have no regard for attendance and hence formative assessment is missed by students.
- Learning achievements of children have dropped drastically and hence the quality of assessments also has to be lowered in order to promote the child.
- IMPLICATIONS ON ASSESSMENT
- Students had no interest in studies in the school and hence formative assessment is affected
- Teacher's enthusiasm to teach with devotion and energy has been affected due to the bottom line of passing the students irrespective of their performance.
- IMPLICATIONS ON ASSESSMENT
- Children with weak foundation reach in Class IX unable to continue in higher classes
- Not detaining a student even if she performs badly deteriorates her learning levels and makes her ill-equipped to cope with the widening syllabi as she is promoted to higher grades.
- What is MEANT by Competitive ranking of schools
- Ranking of schools based on Higher Academic results at tenth grade examinations.
- Ranking at times is also provided on the basis of co-curricular and curricular environment provided by school.
- Rankings in form of certification & accreditation
- **PERCEPTION OF GENRAL PUBLIC**
- **Certification** – the provision by an independent body of written assurance (a certificate) that the product, service or system in question meets specific requirements.
- **Accreditation** – the formal recognition by an independent body, generally known as an accreditation body, that a certification body operates according to international standards.
- IMPLICATIONS ON ASSESSMENT
- PURPOSEFUL failing of students at standard IXth level.
- Encouraging these students to appear through private X th
- Encouraging students to take up private tuitions and extra coaching
- Assessment is only scoring of marks
- IMPLICATIONS ON ASSESSMENT
- Assessment of affective and psychomotor domain is completely neglected.
- Pressure on students, parents and school to SHOW the performance.
- True spirit of assessment is lost.
- Assessment – involves check on memorization rather than understanding and application
- IMPLICATIONS ON ASSESSMENT
- Competition within Boards for better performance, hence new policy such as 'best of five'.
- Such half baked policy related to assessment does not provide correct picture to the students and parents who are not able to cope up with further higher studies.
- IMPLICATIONS ON ASSESSMENT
- Assessment does not help the pupil form a realistic image of his/her learning and development
- IMPLICATIONS ON ASSESSMENT
- Assessment no longer provides true picture of a learner's achievement and levels of performance.
- What is MEANT by Profiteering by private agencies

- **Profiteering by private agencies means Education is looked upon as an means to have commercial profit.**
- **Educational institutions can make profit (up to a certain extent), which has to be ploughed back to the institution for its development.**
- IMPLICATIONS ON ASSESSMENT
- Assessment is done to ensure that the students end up scoring well.
- Malpractices in the process of assessment.
- Assessment is restricted only to scoring marks irrespective of the teaching or learning.
- Outcome of assessment is only judged in terms of scores not in terms of learning levels of students.