

**MANGALORE UNIVERSITY**  
**CENTRE FOR DISTANCE EDUCATION**  
**MANGALAGANGOTHRI - 574 199**  
**DAKSHINA KANNADA DISTRICT, KARNATAKA STATE**

**COURSE 10**

**ASSESSMENT FOR LEARNING**  
**(Curriculum and Pedagogic Studies)**  
**BLOCKS 1 & 2**  
**(PART - 1)**

**B.Ed. DEGREE PROGRAMME**  
**(OPEN AND DISTANCE LEARNING)**

**SECOND YEAR B.Ed.**

**Published by**  
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## **COURSE 10**

# **ASSESSMENT FOR LEARNING (Curriculum and Pedagogic Studies) BLOCKS 1 & 2 (PART - 1)**

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## Overview of the Course

The present course analyses the critical role of assessment in enhancing learning of students. In contrast to the traditional notion of assessment as an act to be performed at the end of the teaching, using a paper-pencil test, the course situates assessment within a constructivist paradigm. The traditional assessment procedure is a mechanism to filter learners as per their abilities or potentials and thus reducing learning to a limited set of 'expertise' that can be displayed on paper. With the constructivist understanding of learning and assessment, assessment cannot be an end-of-teaching activity. Rather, it has to be an ongoing process where the teacher closely observes learners during the process of teaching-learning, records learning landmarks, and supports them by providing relevant feedback. The need for giving feedback to students and their guardians is highly significant, and therefore the knowledge about the nature and procedures of the feedback process is very important for a teacher. Thus, the present course discusses the nature, types and ways of giving feedback to students and parents. It also opens up diverse methods and tools for assessing an array of learning/performance outcomes of diverse learners. The course discusses the relationship of assessment with self-esteem, motivation, and identity as learners.

This course will help in understanding the psycho-social and political dimensions of assessment. This helps to realize how traditional assessment used for competitive selection has provided legitimacy to evil systems of education and worked towards perpetuating equations of power and hegemony in society.

This course aims to develop a critical understanding of issues in assessment and also explores realistic, comprehensive, and dynamic assessment processes that are culturally responsive for use in the classroom. This is one of the greatest challenges before the Indian system and through this course, you need to get empowered to critically look at the prevalent practices of assessment and selection which lead to better learning and developing more confident and creative learners.

The first block discusses the basic concepts of assessment and evaluation. It deals with the purposes and approaches of assessment in Behaviouristic, Cognitivist, and Constructivist Paradigms. It also discusses the difference between traditional and constructivist approaches of assessment. It promotes teachers for a critical review of current evaluation practices and their assumptions about learning and development.

The second block deals with assessment tools and procedures. It discusses the nature, merits, and limitations of different assessment tools like observation, Rubric based assessment, and other quantitative and qualitative assessment procedures. It highlights the significance of self-assessment and peer assessment.

The third block analyses the procedure of data analysis. It also describes the nature and procedure of feedback. It analyses the nature, merits, and limitations of marks system and grade systems. It also prepares you to develop and maintain a comprehensive learner profile

The history of reforms and the present status of the examination system is dealt with in the fourth unit. The impact of examination-driven schooling on the social identity and socialization of children has been discussed to highlight the need for an urgent reorientation in

the focus of the examination system. The nature of assessment in vocational courses has been detailed in the same block. The role of ICT in the examination also has been discussed here.

In total, the focus of this course is to highlight the need to adopt a shift in the total process of assessment. We need to shift from the concept of 'Assessment of learning' to 'Assessment for learning'. The total content of this course needs to be understood with this focus.

## **Block 1 : Assessment and Evaluation-An Overview**

### **Unit 1 : Concept of Assessment and Evaluation**

#### **Unit Structure**

- 1.1.1. Learning Objectives
- 1.1.2. Introduction
- 1.1.3. Learning Points and Learning Activities
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Check Your Progress -1
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- 1.1.5. Answers to 'Check Your Progress - 1, 2, and 3'
- 1.1.6. Unit end Exercise
- 1.1.7. References

#### **1.1.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Explain the meaning, concept, nature, importance, types and strategies of Assessment;
- Describe the meaning, concept, nature, importance, characteristics, and objectives of Evaluation; and
- Differentiate between the concepts of Assessment and Evaluation.

#### **1.1.2. Introduction**

You have been involved in the practices of assessment and evaluation from the day you have started the teaching profession. You have experienced the merits of each of these practices. Though you have been using both assessment and evaluation practices, you might not have noticed that they are different and used for different purposes. We, as teachers need to know these concepts in-depth, and know why, how, and when each of these is used in the educational setting. Understanding these two concepts with clarity will help us to understand the differences between the two and facilitates us to use inapt situations. Hence, in this unit, let us understand the meaning, nature, and other related aspects of assessment and evaluation and equip ourselves to be good professionals in the field of education.

#### **1.1.3. Learning Points and Learning Activities**

##### **1.1.3.1. Concept of Assessment and related aspects**

It is important to understand the concept of 'measurement' before trying to understand the concept of 'assessment'. Measurement refers to the assignment of numerals to objects, attributes or events according to rules. For example, we describe the height and weight of a person as 5.6ft and 60 kgs respectively.

In education, it refers to the quantification of any aspect of instructional process. It is the process of obtaining quantitative description of the degree, to which an individual possesses an attribute.

In measurement numbers are assigned to represent quantities of the attribute.

In the process of measurement numbers are assigned according to some predetermined rules. A number is a kind of numeral which is assigned some quantitative meaning. In the process of measurement, the investigator does not assign number of his own choice, but according to certain fixed and explicit rules. Usually such rules are of two types. One, where the procedure is obvious and explicit. For example, when one is measuring the length of table in feet and inches, rules for assigning numbers are very explicit and clear. But if one wants to measure the intelligence of a student, the rules would not be as clear as in the case of measuring the length of a table. For measuring the educational attributes, the rules are generally vague and less explicit.

Measurement is always concerned with certain attributes or variables or features of an object. It is these attributes that are measured but not the object itself. For example, if a teacher is measuring the interest of a student towards art, he is measuring how much interest the student has in art, but not measuring the student.

In the process of measurement, numerals are used to represent quantities of an attribute.

Now with this background, let us understand the concept of assessment.

Assessment is defined as the practical application of measurement, the actual performance of some type of measurement. For example, an administration of an achievement test in mathematics could be considered assessment, because when it takes place, some information or data are being collected.

Let us learn more about the concept of assessment.

#### **Origin of the word 'Assessment':**

"The word assess comes from the Latin word 'assidere', which means to sit beside. Then, to assess means to sit beside the learner."- Evangeline Harris Stefanakis (2002)

#### **Definitions of Assessment**

"Assessment is the collection of relevant information that may be relied on for making decisions"- Fenton (1996).

Assessment can be defined as the systematic collection, interpretation, and use of information about learning. It gives teachers a better awareness of what pupils know and understand, what their learning experiences enable them to do, and what their skills and personal capabilities are. Assessment refers to the wide variety of methods that educators use to evaluate, measure, and document the academic readiness, learning progress, and skill acquisition of students from preschool through college and adulthood. It is the process of systematically gathering information as part of an evaluation. Assessment is carried out to see what children and young people know, understand, and can do. Assessment is very important for tracking progress, planning the next steps, reporting and involving parents, children, and young people in learning.

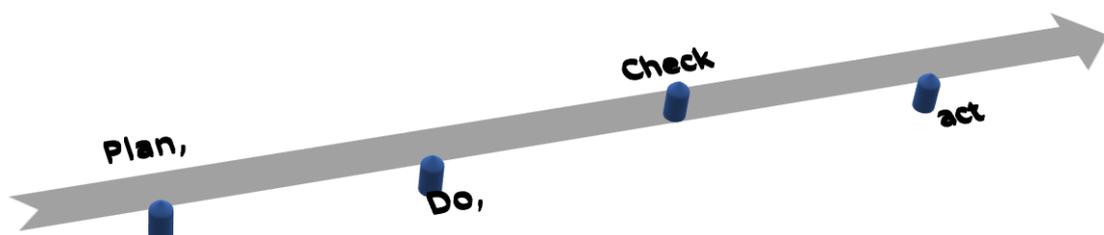
Educational assessment is the systematic process of documenting and using empirical data on the knowledge, skill, attitudes, and beliefs to refine programs and improve student learning. It is the systematic process of determining educational objectives, gathering, using, and analysing information about students' learning outcomes to make decisions about programmes, individual student progress, or accountability.

## Purpose of Assessment

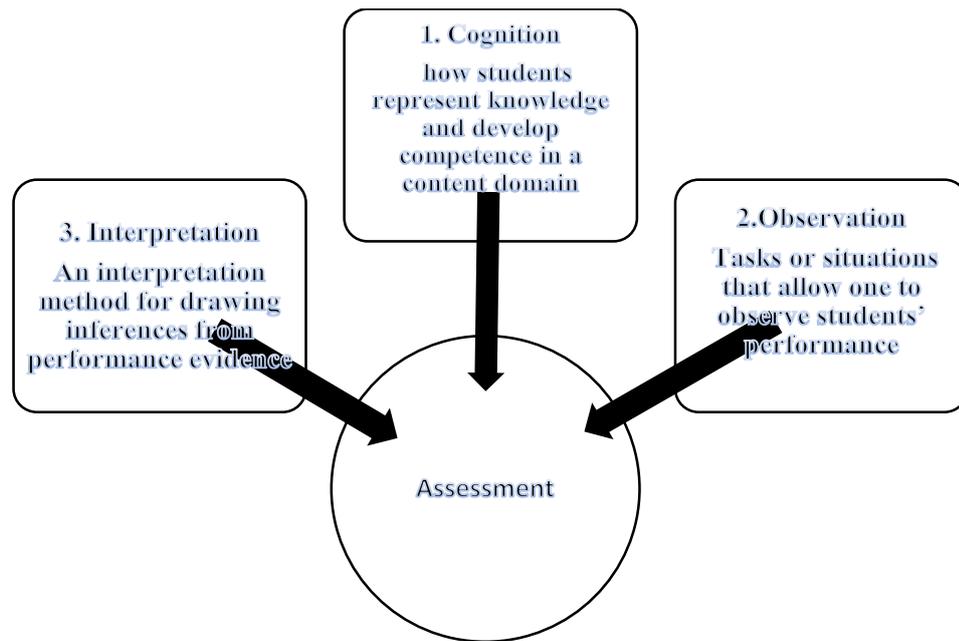
Assessment can be viewed as important from two perspectives. Firstly, assessment can be perceived as an accountability device, and the second is a means for enhancing teaching and learning, a series of activities that will help us do better the things we believe are important.

## Nature of Assessment

- The term assessment is generally used to refer to all activities teachers use to help students learn and to gauge student progress.
- Assessment is often used interchangeably with the test, but not limited to tests. Assessment can focus on the individual learner, the learning community (class, workshop, or other organized groups of learners), a course, an academic program, the institution, or the educational system as a whole.
- As a continuous process, assessment establishes measurable and clear student learning outcomes for learning, provisioning a sufficient amount of learning opportunities to achieve these outcomes, implementing a systematic way of gathering, analysing, and interpreting evidence to determine how well student learning matches expectations, and using the collected information to inform improvement in student learning.
- Assessment is not simply testing. It can certainly be a part of most assessment programmes, but the assessment is much more than testing. It is a process that involves reflection on purposes, discussion and specification of educational goals, development to indicators of the extent to which those goals are being achieved, and based on the evidence, curricular and programme modifications designed to increase the likelihood that students will learn what is expected of them.
- Assessment is a process that follows a set of four components. These four stages or components are Plan, Do, Check, and act.



- It is a process to evaluate the student's performance. Besides, it is an orderly process.
- The assessment covers several issues. Teachers need to focus on these to make assessment more meaningful. They are as follows:
  - The ways teachers support and assess children's learning and monitor progress and identify next steps in learning.
  - Reporting to parents/carers, in writing, and in discussions, to help them understand their child's progress and what they can do to help their child's learning.
  - Formal recognition of a child or young person's achievements through profiles and qualifications.
- Every assessment rests on three pillars



- A model of how students represent knowledge and develop competence in a content domain.
- Tasks or situations that allow one to observe students' performance.
- An interpretation method for drawing inferences from performance evidence

### **Importance of Assessment**

- Asking students to demonstrate their understanding of the subject matter is critical to the learning process; it is essential to evaluate whether the educational goals and standards of the lessons are being met.
- Assessment is an integral part of instruction, as it determines whether or not the goals of education are being met.
- Assessment affects decisions about grades, placement, advancement, instructional needs, curriculum, and, in some cases, funding.
- Assessment inspires us to ask these hard questions: "Are we teaching what we think we are teaching?" "Are students learning what they are supposed to be learning?" "Is there a way to teach the subject better, thereby promoting better learning?"
- Today's students need to know not only the basic reading and arithmetic skills but also skills that will allow them to face a world that is continually changing. They must be able to think critically, to analyse, and to make inferences. Changes in the skills base and knowledge our students need to require new learning goals; these new learning goals change the relationship between assessment and instruction. Teachers need to take an active role in making decisions about the purpose of assessment and the content that is being assessed.
- By deliberately using different functions of assessments at specific times during the learning process students will have a clearer vision of what is expected of them and generally will be more positive about their course experiences. They will also learn to use skills that will help them understand how scientists analyse and present findings.
- Assessment is carried out to see what children and young people know, understand, and can do.
- Assessment is very important for tracking progress, planning the next steps, reporting and involving parents, children, and young people in learning.

- Assessment is central to successful teaching and learning. To determine the effectiveness of a sequence of instruction, teachers need to gauge pupils' progress in understanding what they want them to learn.
- Assessment is the link between teaching and learning. It is important because without it there is no way to anticipate what pupils will take from their classroom experiences and this might be quite different from what was intended. The assessment helps teachers find out what has taken place in pupils' developing understanding during a sequence of teaching and learning.
- Educational Assessment seeks to determine how well students are learning and is an integrated part of the quest for improved education. It provides feedback to students, educators, parents, policymakers, and the public about the effectiveness of educational services.”
- Assessment contributes to system and school accountability. It is important to establish school and system accountability in a given educational context. The schools through collecting and interpreting the data through assessment can present to the stakeholders and public their accountability in a vivid fashion.
- The assessment helps for evaluating teacher competencies and to compensate for the requirements. The best way to improve educational results is to ensure that students have effective teachers and that one way to ensure effective teaching is to evaluate and compensate educators, at least in part, based on the test scores their students achieve. By basing a teacher's income and job security on assessment results, the reasoning goes, administrators can identify and reward high-performing teachers or take steps to either help low-performing teachers improve or remove them from schools.
- Assessment results are often used as a mechanism for improving instructional quality and student achievement. Because assessments are designed to measure the acquisition of specific knowledge or skills, the design of an assessment can determine or influence what gets taught in the classroom (“teaching to the test” is a common, and often derogatory, a phrase used to describe this general phenomenon). Formative assessments, for example, give teachers in-process feedback on student learning, which can help them make instructional adjustments during the teaching process, instead of having to wait until the end of a unit or course to find out how well students are learning the material.
- Assessment processes help to identify the learning needs of students. Educators use a wide range of assessments and assessment methods to identify specific student learning needs, diagnose learning disabilities (such as autism, dyslexia, or nonverbal learning disabilities), evaluate language ability, or determine eligibility for specialized educational services.

**The assessment process is undergoing modification because of valid reasons.**

Several factors are improving the process of assessment, like advances in cognitive sciences, a broadened concept of what is important to assess, advances in measurement sciences, and expanded capability to interpret more complex forms of evidence. It is important to emphasize the importance of multiple measures in assessment: one type of assessment does not fit all situations. Assessment is always a process of reasoning from evidence and is imprecise to some degree. Results are only estimating of what a person knows and can do. Therefore, we need a richer and more coherent set of assessment practices.

**Types of Assessment:**

Assessment is often divided into different categories to consider different objectives for assessment practices.

**Placement Assessment:** Placement assessment is used to place students according to prior achievement or personal characteristics, at the most appropriate point in an instructional sequence, in a unique instructional strategy. These are the tests that colleges and universities use to assess college readiness and place students into their initial classes. Placement evaluation also referred to as pre-assessment or initial assessment, is conducted before instruction or intervention to establish a baseline from which individual student growth can be measured. This type of assessment is used to know what the student's skill level is about the subject. It helps the teacher to explain the material more efficiently. These assessments are not graded.

**Formative Assessment:** Formative assessment is generally carried out throughout a course or project. Formative assessment also referred to as "educative assessment," is used to aid learning. In an educational setting, the formative assessment might be a teacher (or peer) or the learner, providing feedback on a student's work and would not necessarily be used for grading purposes. Formative assessments can take the form of diagnostic, standardized tests, quizzes, oral questions, or draft work. Formative assessments are carried out concurrently with instructions.

It is an essential part of teaching and learning. It does not add to the final marks given for the unit; instead, it is put into learning through given advice. Also, it points out what is good about the work and what is not? Similarly, it also affects what the students and teachers will plan in the future for learning.

**Summative Assessment:** Summative assessment is generally carried out at the end of a course or project. In an educational setting, summative assessments are typically used to assign students a course grade. Summative assessments are evaluative. Summative assessments are made to summarize what the students have learned, to determine whether they understand the subject matter well. This type of assessment is typically graded (e.g. pass/fail, 0-100) and can take the form of tests, exams, or projects. Summative assessments are often used to determine whether a student has passed or failed a class. It shows the amount of learners' success in meeting the assessment. Also, it contributes to the final marks given for the unit. These are conducted at the end of the units. Besides, it provides data for selection for the next level. The logic and dependability of summative assessment are of great importance. It can also provide information that has formative value.

**Work Integrated Assessment:** This type of assessment is where the tasks and situations are closely associated with what you experience. It helps to develop student's skills and capabilities along with educational development. Also, this helps and supports educational staff to design genuine assessments. It designs according to the need of the teacher.

**Dynamic Assessment:** It measures what students can achieve when teaches about an unfamiliar topic or field. An example can be teaching students Spanish for a short while. It helps to see how students who do not have any prior knowledge adopt it. It can be helpful to review the potential for students who have a mainly underprivileged backdrop. Frequently it is used in advance of the main body of teaching.

**Diagnostic Assessment:** Just like formative assessment, diagnostic assessments are intended to improve learner's knowledge. Besides, it looks backward rather than looking forward. It reviews what the learner knows and the difficulty that they are facing in learning. Diagnostic assessment deals with the whole difficulties at the end that occurs during the learning process. Not diagnosing these difficulties could limit their participation in learning. Often used when a problem arises or before it.

**Synoptic Assessment:** It gives confidence to students to unite elements of their learning from different parts of a plan and to show their build up knowledge and thoughtful of a topic or subject area. It enables students to show their talents and skills. And it shows how in-depth knowledge they have about the subject. It helps in measuring the capacity to apply knowledge to understand the subject.

**Criterion-referenced Assessment:** The performance of every student is judged by a specific principle. It should be strictly seen that other student's performance should not be taken into account. Besides, the teacher should avoid normative thinking because it can affect judgment. Apart from that, the teacher should assure reliability and validity.

**Ipsative Assessment:** It measures the performance of the student in comparison to his previous performance. Also, it helps in keeping in check how well they are undertaking their tasks. Ipsative connects with efforts to enhance motivation to learn.

### **Principles of Assessment**

The five principles that underpin quality assessment practice specify that it should:

- be complementary to and supportive of learning;
- be valid and reliable;
- be fit for purpose and manageable;
- support teachers' professional judgment; and
- support accountability.

### **Strategies for Assessment**

Teachers may use a range of strategies that can provide information about pupils' progress, including:

- teacher observation of pupils engaging in classroom activities;
- teacher observation of pupils' performances;
- teacher checking of pupil work;
- pupils checking each other's work and similar forms of peer assessment;
- questioning to check for understanding;
- end of topic tests;
- exams; and
- other tasks, projects, and assignments.

### **Nature of Assessments based on different purposes**

While assessment can take a wide variety of forms in education, the following descriptions provide a representative overview of a few major forms of educational assessment.

- **Standardized assessments** are designed, administered, and scored in a standard, or consistent, manner. They often use a multiple-choice format, though some include open-ended, short-answer questions. Historically, standardized tests featured rows of ovals

that students filled in with a number-two pencil, but increasingly the tests are computer-based. Standardized tests can be administered to large student populations of the same age or grade level in a state, region, or country, and results can be compared across individuals and groups of students.

- **Standards-referenced or standards-based assessments** are designed to measure how well students have mastered the specific knowledge and skills described in local, state, or national learning standards. Standardized tests and high-stakes tests may or may not be based on specific learning standards, and individual schools and teachers may develop their own standards-referenced or standards-based assessments.
- **Common assessments** are used in a school or district to ensure that all teachers are evaluating student performance in a more consistent, reliable, and effective manner. Common assessments are used to encourage greater consistency in teaching and assessment among teachers who are responsible for teaching the same content, e.g. within a grade level, department, or content area. They allow educators to compare performance results across multiple classrooms, courses, schools, and/or learning experiences (which is not possible when educators teach different material and individually develop their own distinct assessments). Common assessments share the same format and are administered in consistent ways-e.g., teachers give students the same instructions and the same amount of time to complete the assessment, or they use the same scoring guides to interpret results. Common assessments may be “formative” or “summative.”
- **Performance assessments** typically require students to complete a complex task, such as a writing assignment, science experiment, speech, presentation, performance, or long-term project, for example. Educators will often use collaboratively developed common assessments, scoring guides, rubrics, and other methods to evaluate whether the work produced by students shows that they have learned what they were expected to learn. Performance assessments may also be called “authentic assessments,” since they are considered by some educators to be more accurate and meaningful evaluations of learning achievement than traditional tests.
- **Portfolio-based assessments** are collections of academic work—for example, assignments, lab results, writing samples, speeches, student-created films, or art projects—that are compiled by students and assessed by teachers in consistent ways. Portfolio-based assessments are often used to evaluate a “body of knowledge”—i.e., the acquisition of diverse knowledge and skills over a period of time. Portfolio materials can be collected in physical or digital formats, and they are often evaluated to determine whether students have met required learning standards.

### Check Your Progress - 1

The type of assessments and the description of these assignments are given in ‘List A’ and ‘List B’ respectively. Match the type of assessments with its descriptions.

|   | <b>List A</b>            | <b>List B</b>   |   |
|---|--------------------------|---|---|
| 1 | Standardized assessments | designed to measure how well students have mastered the specific knowledge and skills | a |

|   |                             |   |   |
|---|-----------------------------|---|---|
| 2 | standards-based assessments | require students to complete a complex task, such as a writing assignment, science experiment etc   | b |
| 3 | Common assessments          | designed, administered, and scored in a standard, or consistent, manner.  | c |
| 4 | Performance assessments     | collections of academic work  | d |
| 5 | Portfolio-based assessments | used in a school or district to ensure that all teachers are evaluating student performance in a more consistent, reliable, and effective manner. | e |

### 1.1.3.2. Concept of Evaluation and related aspects

#### Definitions of Evaluation

Evaluation is the application of a standard and a decision-making system to assessment data to produce judgments about the amount and adequacy of the learning that has taken place."

"The process of determining to what extent the educational objectives are being realized" (Tyler)

"Evaluation is the process of determining merit, worth, or significance; an evaluation is a product of that process" (Scriven)

Evaluation is a orderly determination of a subject's merit, worth, and significance, using criteria governed by a set of standards. It can assist an organization, program, design, project, or any other intervention or initiative to assess any aim, realizable concept/proposal, or any alternative, to help in decision-making; or to ascertain the degree of achievement or value regarding the aim and objectives and results of any such action that has been completed. The primary purpose of evaluation, in addition to gaining insight into prior or existing initiatives, is to enable reflection and assist in the identification of future change.

Evaluation is the structured interpretation and giving of meaning to predicted or actual impacts of proposals or results. It looks at original objectives, and at what is either predicted or what was accomplished and how it was accomplished. So evaluation can be formative, that is taking place during the development of a concept or proposal, project, or organization, to improve the value or effectiveness of the proposal, project, or organisation. It can also be summative, drawing lessons from a completed action or project or an organisation at a later point in time or circumstance.

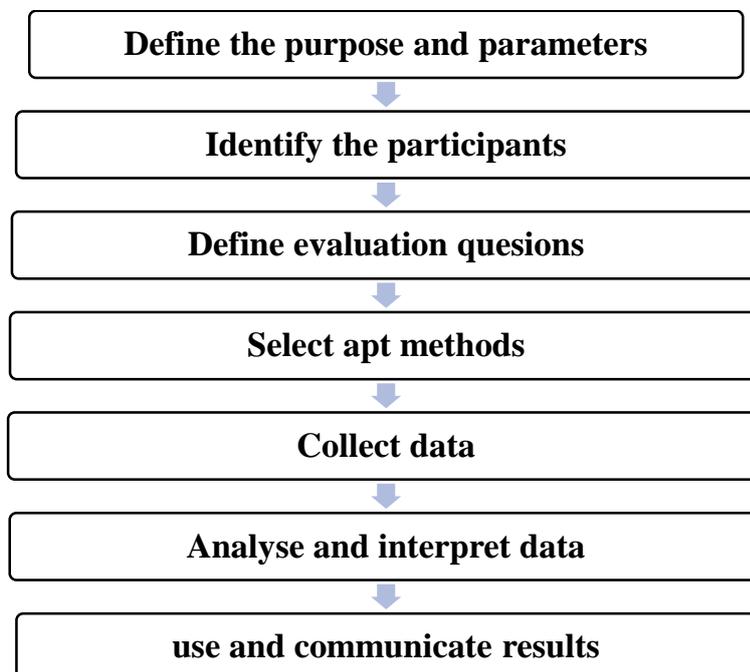
#### Nature of Evaluation

- Evaluation involves observing, documenting, and measuring. It compares what happened with what is expected to happen.

- Evaluating the value or worth of something is an activity that involves making judgments. “Value” is not absolute – people have different views about what is of value.
- Evaluation is the systematic assessment of the design, implementation, or results of an initiative for learning or decision-making.
- An evaluation should be as systematic and impartial as possible
- An evaluation is methodical, providing information that is credible, reliable, and useful to enable the incorporation of lessons learned into the decision-making process of users.
- Evaluation is based on empirical evidence and typically on social research methods.
- The evaluation focuses on grades and might reflect classroom components other than course content and mastery level. An evaluation can be used as a final review to gauge the quality of instruction. It’s product-oriented. This means that the main question is: “What’s been learned?” In short, evaluation is judgmental.
- Evaluation is purposive. Evaluation can be conducted for decision making, judgments, conclusion, findings, new knowledge, organizational development, and capacity building in response to the needs of identified stakeholders leading to improvement, decisions about future programming, and/or accountability ultimately informing social action ameliorating social problems and contributing to organizational or social value.

### **General Steps of Evaluation**

Evaluation involves different tasks that should be undertaken in a proper sequence. The tasks to be concentrated in the process of evaluation are the following:



### **Characteristics of Evaluation**

The evaluation has a specific set of characteristics which makes it a unit process, different from assessment and measurement. The following are the different characteristics of evaluation.

- Evaluation is a continuous process
- It is a comprehensive concept
- It includes academic and non-academic subjects
- It is not confined to classrooms
- It is of different types
- It contributes to the improvement of the product
- It is an integral part of teaching
- It is a systematic process
- It also includes the evaluation of teachers and school
- It is a diagnostic appraisal
- It includes both a qualitative and a quantitative description.
- The evaluation includes two important elements. They are measurement and appraisal.

### **Importance of Evaluation**

**Evaluation proves to be fruitful to different members in different ways in educational settings. It can be summarised as below:**

- Evaluation is important to the classroom teachers, supervisors, and administrators, in directing as well as guiding teaching and learning.
- Evaluation aids in devising more effective instructional materials and procedures of instruction.
- Evaluation helps to measure the validity and reliability of instruction.
- Evaluation stimulates students to study
- Evaluation helps teachers to discover the needs of the pupils
- Evaluation can be used to enforce external standards upon the individual class or school
- Evaluation helps to provide objective evidence for effective cooperation between parents and teachers.
- Evaluation helps parents to understand pupil-growth, interests, and potentials.
- Evaluation helps secure support for the school from the government.

Evaluation is considered important as it serves many more purposes. They are as follows:

- It provides periodic tests, which give direction for improvement of work
- It serves as a check
- It helps to determine the degree attained
- It enhances knowledge
- It helps to improve achievement
- It gives satisfaction to school personnel.
- It contributes to the improvement of instruction
- It provides the basis for guidance
- To improve student personality
- For clarification of objectives of teaching and related tasks
- To make needed changes in the curriculum
- To attain success in teaching
- To promote better learning
- To test the achievement of pupils
- To act as an incentive
- To award scholarship
- To promote pupils
- For predicting and guiding learning

- To report progress
- To identify the difficulties of students
- For classification of students.
- To know about the quality of administration
- To provide data for research
- To know the strength and weaknesses of students.
- For decision-making purposes
- For determining objectives and goals
- For strategy planning
- To know the effectiveness of teaching and learning methods
- To assess pupils' progress from time to time

### **Objectives of Evaluation**

Objectives form the core attribute of evaluation. Evaluation clarifies the extent to which these objectives are achieved through the intended programme of teaching and learning, may it be classroom teaching, workshop, excursion of any other related activity planned to achieve the objectives. There are a few general and specific objectives of evaluation. The general objectives are as follows:

- To appraise the status of and changes in pupils' behaviours
- To disclose pupil's needs and possibilities
- To aid pupil-teacher planning
- To expand the concepts of worthwhile goals beyond pure achievement
- To serve as a means of improving school- community relation
- To familiarise the teacher with nature of pupil learning, development and progress
- To relate measurement to the goals of instructional programme.
- To facilitate the selection and improvement of measuring
- To appraise teachers' performance
- To appraise the performance of school personnel.
- To serve method of self improvement.
- To serve as guiding principle for the selection of supervisory

### **Specific Objectives of Evaluation**

- To help in diagnosing weakness of students
- To stimulate instruction
- To help measuring factual knowledge
- To predict future achievement
- To test knowledge, skills and attitudes.

### **Principles of Evaluation**

- Effective evaluation is a continuous on-going process. It is much more than determining the outcome of learning, it is rather a way to estimate the learning over time. Learning and evaluation are never completed. They are always evolving and developing.
- A variety of evaluative tools is necessary to provide most accurate assessment of students' learning and progress. Dependence on one type of tool and exclusion of others deprives students of valuable learning opportunities and the resultant conclusions may not be valid.

- Evaluation must be a collaborative activity between teachers and students. Students must be able to assume an active role in evaluation so that they develop individual responsibility for development and self-monitoring.
- Evaluation needs to be authentic. It must be based on the natural activities and processes students do both in the classroom and in their everyday lives. Relying solely on formalised testing procedures might give a signal to students that learning is simply a search for ‘right answers’.

## Check Your Progress - 2

### Arrange the steps of evaluation in proper sequence

1. Analyse and interpret data
2. Select apt methods
3. Identify the participants
4. Define the purpose of evaluation
5. Use and communicate results
6. Define evaluation questions
7. Collect data

### 1.1.3.3. Difference between Assessment and Evaluation

Exercise-I: Statements are given in two groups. Find out the criterion for classification of these statements.

## Assessment

- Rose is a useful flower
- Rahim is well behaved
- Rani is intelligent

## Evaluation

- Roses grow well when looked after properly
- Rahim can be taught singing so that he flourishes as a singer
- Rani can work out difficult sums with some additional support.
- Let us teach Karuna to score more marks

Two sets of statements are presented in the above lists. The first one is judgemental. The second set expresses something to improve the quality of different aspects. This is the difference between evaluation and assessment. The first list represents the evaluation and the second list assessment. Other differences between these two concepts are discussed below.

The evaluation focuses on grades and might reflect classroom components other than course content and mastery level. An evaluation can be used as a final review to gauge the quality of instruction. It's product-oriented. This means that the main question is: "What's been learned?" In short, evaluation is judgmental.

**Assessment** is defined as a process of appraising something or someone, i.e. the act of gauging the quality, value, or importance. As against, **the evaluation** focuses on making a judgment about values, numbers, or performance of someone or something. Assessment is made to identify the level of performance of an individual, whereas evaluation is performed to determine the degree to which goals are attained.

The terms "Assessment" and "Evaluation" have been used interchangeably in some literature, but the basic distinction is that "evaluation" is used to provide a grade or score, and "assessment" is used as a measure of progress. Both are important in the learning environment.

The difference between Assessment and evaluation concerning different dimensions:

| Sl. No. | Dimensions                 | Assessment   | Evaluation  |
|---------|----------------------------|--|---|
| 1       | Definition                 | Process of gathering information on student learning   | Process of analysing, reflecting upon and summarising, assessment information, and making judgements/ decisions based on the information collected. |
| 2       | Purpose                    | to increase quality  | to judge quality  |
| 3       | Timing                     | Formative: ongoing   | Summative, provides closure   |
| 4       | Focus of Measurement       | Process Oriented: How learning is going  | Product Oriented: What has been learnt  |
| 5       | Uses                       | Diagnostic   | Judgemental   |
| 6       | Feedback                   | Provides feedback  | Ascertain whether the standards are attained or not   |
| 7       | Grading                    | ungraded   | Graded  |
| 8       | Criteria focus             | Individualised   | Applied against standards   |
| 9       | objective                  | Measure of progress  | Extent of learning  |
| 10      | Useful for                 | Enables teachers to better understand how schooling is being experienced from the students' point of view. It is for teachers. | Helps students better understand standards and quality in terms of their production. It is for students.  |
| 11      | Criteria defined by        | The criteria are defined internally  | The criteria are defined externally   |
| 12      | Relationship among members | The relationship between assessor and assess is reflective   | The evaluator and the evaluate share a prescriptive relationship  |

Besides the differences, there are also some similarities between assessment and evaluation. Both require criteria, use measures, and are evidence-driven.

### **Check Your Progress - 3**

Classify the statements based on Assessment(A) and Evaluation(E)

1. 8th A Section needs more guidance in mathematics
2. 9th C Section children are not studious
3. 3rd A Section child can be better guided in co-curricular activities
4. Karnataka students perform better in Science than the children of other states
5. Gopal has got a 'C' grade in the final examination
6. Socially disadvantaged students need to be given extra help in academics.

#### **1.1.4. Let us Summarise**

- "Assessment is the collection of relevant information that may be relied on for making decisions"
- Assessment can be defined as the systematic collection, interpretation, and use of information about learning.
- Assessment can be viewed as important from two perspectives. Firstly, assessment can be perceived as an accountability device, and the second is a means for enhancing teaching and learning, a series of activities that will help us do better the things we believe are important.
- Assessment is not simply testing. It can certainly be a part of most assessment programmes, but the assessment is much more than testing.
- Assessment is a process that follows a set of four components. These four stages or components are Plan, Do, Check, and act.
- Assessment covers several issues.
- Assessment is important for several reasons
- Assessment process is undergoing modification because of valid reasons.
- There are different types of assessment like Placement assessment, Formative assessment Summative assessment, etc
- Evaluation is the application of a standard and a decision-making system to assessment data to produce judgments about the amount and adequacy of the learning that has taken place."
- Evaluation involves observing, documenting, and measuring. It compares what happened with what is expected to happen.
- Evaluation will be carried through several steps
- Evaluation proves to be fruitful to different members in different ways in educational settings.
- Assessment differs from evaluation in many aspects. The purpose of these two processes is different.

#### **1.1.5. Answer to 'Check Your Progress - 1, 2 and 3'**

##### **Check Your Progress - 1**

1-c,2-a,3-d,4-e,5-d

##### **Check Your Progress - 2**

4,3,6,2,7,1,5

### Check Your Progress - 3

‘A’- 1,3,6

‘E’-2,4,5

#### 1.1.6. Unit end Exercises

1. Explain the concept, need and types of assessment
2. Explain the concept, importance, purpose and characteristics of evaluation
3. Differentiate between assessment and evaluation

#### 1.1.7. References

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## **Block 1 : Assessment and Evaluation-An Overview**

### **Unit 2 : Purposes and Approaches of Assessment in Behaviouristic, Cognitivist, and Constructivist Paradigms**

#### **Unit Structure**

- 1.2.1. Learning Objectives
- 1.2.2. Introduction
- 1.2.3. Learning Points and Learning Activities
  - 1.2.3.1. Purposes and Approaches of Assessment in Behaviouristic paradigm  
Check Your Progress - 1
  - 1.2.3.2. Purposes and Approaches of Assessment in Cognitivist paradigm  
Check Your Progress - 2
  - 1.2.3.3. Purposes and Approaches of Assessment in Constructivist paradigm  
Check Your Progress - 3
- 1.2.4. Let us Summarise
- 1.2.5. Answers to 'Check Your Progress - 1, 2, and 3'
- 1.2.6. Unit end Exercises
- 1.2.7. References

#### **1.2.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Purposes and Approaches of Assessment in Behaviouristic paradigm
- Purposes and Approaches of Assessment in Cognitivist paradigm
- Purposes and Approaches of Assessment in Constructivist paradigm

#### **1.2.2. Introduction**

We are now familiar with the characteristics of assessment and we know that assessment is focused on improving learning and identifying the requirements to improve learning in the context. The focus of assessment however changes according to different theories on learning, since the concept of learning has been perceived differently by different theorists. Which theory is more effective and practical in achieving the objectives of learning is a critical question? However, experts suggest that an understanding of different positions on learning will help to gain better results. Therefore, it is beneficial to understand the concept of learning from three distinct perspectives and deduce its implications for assessment. The purpose and approaches of assessment are different in each of these perspectives.

Let us understand the implications of each of these stands, for the purposes and approaches of assessment and also try to make the best use of this understanding to plan our classroom assessment procedures.

#### **1.2.3. Learning Points and Learning Activities**

There is no single definition of learning agreed upon by all at all times. It is not possible also. Let us start with the following definition given by Shuell long back.

“Learning is an enduring change in behaviour, or in the capacity to behave in a given fashion, which results from practice or other forms of experience”.

Undoubtedly, some learning theorists will disagree with the definition of learning presented here. However, it is not the definition itself that separates a given theory from the rest. The major differences among theories lie more in interpretation than they do in the definition. These differences revolve around several key issues.

### **1.2.3.1. Purposes and Approaches of Assessment in Behaviouristic paradigm Behaviourist Perspective of Assessment**

The assessment has traditionally been influenced by the behaviourist theories of learning. Behaviourist learning theories are concerned about the influence of the external environment on human learning. Learning according to behaviourism is based on three basic assumptions. First, learning is manifested by a change in behaviour; second, the environment shapes the behaviour; and third, the principle of contiguity and reinforcement are central to the learning process. Behaviourism has tried to explain the action in simple causal terms, as it believes that, competence can be achieved by breaking down tasks and activities into small steps and reinforcing the achievement of each step. All of us have experienced how children show their happiness in getting ‘good’ or ‘fair’ in their classwork. These comments act as reinforces for further learning among children. Behaviourist theories believe that knowledge could be obtained and transmitted through the manipulation of the environment and human beings are passive recipients who have to respond to an active environment. Learners’ natural capacities to draw upon and construct their knowledge, to develop their capacities to relate to the environment, both, physical and social are of little relevance in such learning.

Behaviourist learning theories considered learning as an association of stimulus and response resulting in a behaviour change. Reinforcement is central to the behaviourist approach and it focused on objective measurement of ability and achievement. This developed the tradition of defining learning outcomes in observable behaviours. Learner’s personal experiences and socio-cultural context had very little significance in such a type of learning perspective. For instance, the socio-cultural context of a child coming from a remote or tribal area is entirely different from the children belonging to urban areas. This may affect their learning but was ignored in the behaviorist perspective that focuses on the outcome. The achievement of learners, therefore, becomes more important and it is presumed that anything can be taught using reward and punishment. The overemphasis on learning outcomes results in an examination system that encourages rote memorization, objective types test, focus on recall, completion, matching, and multiple-choice tests that fit perfectly with what was deemed important to learn. It also results in neglect of the role of individual experiences and complex learning skills like analysis, synthesis, critical thinking, reflection, problem-solving, etc. in learning.

Therefore, this perspective of human learning has encouraged schools to function as factories to produce learners with higher academic achievements that have been the sole determinant of quality education. Educational systems influenced by behaviourist perspectives follow the typical transmission mode of a teaching learning process to fill the minds of young learners with heaps of information and then assess the learner’s ability to recall this information through various means of assessment tools. Behaviourist perspective, thus, encouraged the concept of mastery learning based on the premise that most students can master their learning targets, given enough time and suitable opportunity. The basic premise of behaviourist perspective is that competence can be achieved by breaking down tasks and

activities into small components or steps. Achievement of each step is acknowledged and reinforced which motivates the learner to move towards the next more complex step. It was assumed that intelligence is evenly distributed amongst learners and can be represented by a normal curve. Hence, the purpose of the assessment was to place learners at various points of this normal curve. This led to the use of various measurement tools of assessment to discriminate between learners based on their performance. You are familiar with the ranking system where learners are placed according to the marks or grades they obtain in an examination, and excellence is determined on how well a learner has performed in comparison to others. The effectiveness of assessment tools from this traditional perspective is based on the discrimination index i.e. the ability of the test to discriminate between high and low achievers. Consequently, both the teaching-learning process and assessment have predominantly focused on the quantification of information.

This traditional behaviourist perspective expects to determine the learning objectives and outcomes, related assessment tasks, and criteria, the performance of learners, and grades to be awarded. This led to the separation of instruction and formal (summative) assessment with the latter being an objective exercise determining learner's level of achievement and level of readiness to move up to the next stage of learning. Consequently, in the whole teaching-learning and assessment process learners remained passive at the receiving end complying with the activities given to them. Learners got the very little opportunity for self-assessment, which may help them in identifying their learning gaps and determining their learning objectives.

### **Evaluation in the Teaching-Learning Process**

We have already discussed that testing played a central role in behaviourist teaching-learning process. You are well aware of unit tests being undertaken at the end of each unit in our schools. The measurement tools/tests are so designed, that, if the learners memorize and reproduce the answer, it is proof of their mastery over content, whereas actually, the learners might have to develop very little generalization ability to use their learning gains in real-life situations. It is very well reflected in our day-to-day experiences as well.

This perspective considers that assessment has to be uniformly administered on every learner, and individualized assessment based on the needs of individual learners is ignored. Due to emphasis on objectivity in assessment, teachers avoid using qualitative assessment procedures which could have ensured a holistic assessment of the performance of the learners.

### **Limitations of Assessment in Behaviourist Model of Education**

- Assessment is only about the success of the teaching process.
- Students are passive listeners so proper assessment of achievement is not possible.
- Less importance to psychological aspects of learner.
- More important to the product achieved by the students.
- No weightage to the mental process of learners.
- No continuous assessment of the learner.
- Less importance to co-scholastic achievements.

From the above analysis, the purposes and approaches of assessment according to behaviourism can be deduced as follows:

### **Purpose of Assessment implied by Behaviourism**

- To assess whether desirable behaviours have been developed
- To assess whether the desirable behaviours have been fixed
- To assess the appropriateness of reinforcement concerning expected behaviour
- To assess the responses and the related stimuli to fix the behaviours.
- Check the appropriateness of the stimulus as well as the environments.
- Assess the aptness of cues to get desirable responses
- To check the response about the sequence and content of stimuli
- To check whether the desirable response is fixed.
- To observe students in new situations confirm their learning.
- To assess the ability of students to recall, generalise, and automatically perform a specified procedure.
- To assess whether practice situations in which prompts are paired with the target stimuli are properly arranged?
- To assess whether the environmental conditions are apt so that students can make the correct responses in the presence of those target stimuli and receive reinforcement for those responses?

### **Approaches for Assessment according to Behaviourists:**

A behaviourism approach to assessment is when teachers are observing the behaviour of the child and analysing the behaviour. They pay attention to the consequences and the cause that have arisen from this behaviour. The behaviourists believe that the intentional behaviour that is performed by the child is controlled by their consequence and antecedents which means an event that has brought the behaviour. The behavioural approach frequently assesses children with intense observations where they will control and maintain the environmental factors. It includes assessment methods such as functional and Eco behavioural assessment.

**1. Eco behavioural assessment** is where you find out how to identify the functional relationships between the behaviour of the child and the environmental events. It is said that Eco behavioural assessment tends to focus on the behaviours that the child should be accelerated through strategies such as active engagement, communicative behaviours, and peer interaction (Strain & McConnell, 1992).

**2. Functional assessment** is finding out the relationship that is between the child's behaviour and the environmental influences that could maintain or cause it. We as teachers need to assess to see what factors cause this behaviour and develop some predictions that can help us determine why that behaviour is likely to occur (Strain & McConnell, 1992). Functional assessment in behaviour analysis employs principles derived from the natural science of behaviour analysis to determine the "reason", purpose, or motivation for a behaviour.

**3. Functional behavioural analysis** also called Functional analyses derived from Skinner's work with SR(Stimulus-response) learning. FBA is the descendant of Behaviourism, which maintains that human behaviours can be described scientifically and that we can alter behaviour by rewarding positive behaviour and punishing negative behaviour. The work of B. F. Skinner has been highly influential in the field of behaviour modification, although he saw free will as an illusion and education being one of the teacher as an expert.

**4. Criterion Reference Tests:** Since behaviourists emphasise mastery learning as one of the objectives Criterion reference tests also form one of the effective approaches of assessment. Criterion-referenced tests are also used by educators and schools practicing **proficiency-based learning**, a term that refers to systems of instruction, assessment, grading, and academic reporting that are based on students demonstrating mastery of the knowledge and skills they are expected to learn before they progress to the next lesson, get promoted to the next grade level, or receive a diploma. The desirable behaviours can be fixed as the ‘criterion’ and the tests can measure whether the students have achieved the set of criteria predetermined. This is what exactly behaviourists intend to do.

- Criterion-Referenced Test measures a student’s performance based on mastery of a specific set of skills
- These are also called mastery tests, compare a person’s performance to a set of objectives. Anyone who meets the criterion can get a high score.
- These are used to know the specific skills achieved
- To know how far students have achieved the set tasks. A test of reading skills would seek to discover whether a child can identify the specific sounds consonants make before it would evaluate whether a student can answer comprehension questions. The questions in a criterion-referenced test seek to find if the student has the skills, not whether the student does as well as other third grade children. In other words, a criterion-referenced test will provide important information that a teacher can use to design specific instructional strategies to help those students succeed. It will identify skills that the students lack.

**5. Competency Checklists:** Competency checklists are one way of validating competence. Checklists must identify expectations and should be completed by staff members who know how to use them. Criteria for safe, effective performance must be clearly defined, and all parties involved in the evaluation process must have a common understanding of the criteria and the basis for assigning ratings.

Here is an example of a competency checklist to assess the technical competency of students.

- Familiarity with characteristics of currently available media types for information storage.
- Understands and applies visual design concepts to work products.
- Operates a multimedia computer system either: Macintosh operating system: Knows desktop controls, printing, saving, file management OR Windows 2000/2007: Knows desktop controls, printing, saving, file management.
- Appropriately uses terminology related to computers and technology in written and oral communications.
- Can describe and implement basic troubleshooting techniques for computer/technology hardware.
- Can flawlessly operate a TV, VCR, laptop, film video camera, and digital video camera.
- Can use imaging devices such as scanners and digital cameras to create usable images (both text and graphics).
- Demonstrates knowledge of the uses of computers and technology in education, business, industry, and society.

**6. Observation Checklist:** An observation checklist is a list of questions an observer will need to answer when they are observing and assessing an individual's employees' skills. An observation checklist is a list of things that an observer is going to look at when observing a class. This list may have been prepared by the observer or the teacher or both. Observation checklists not only give an observer a structure and framework for observation but also serve as a contract of understanding with the teacher, who may as a result be more comfortable, and will get specific feedback on aspects of the class.

**For example**

The teacher has asked the observer to look at the issue of timing so the observer's checklist includes these questions:

- Does the teacher follow the timings on the lesson plan?
- Does the teacher tell learners how long they have for an activity?
- Does the teacher tell learners when time is nearly up?

This checklist is intended to help both who are being observed and those who are observing. The focus is on the mechanics of the classroom interaction, not on the content of the course.

**Check Your Progress - 1**

Match the items in list 'A' with the items in list 'B'

|   | <b>Approaches</b>               | <b>Goals of assessment</b>  |   |
|---|---------------------------------|---|---|
| 1 | Behavioural assessment          | human behaviours can be described scientifically  | A |
| 2 | Functional behavioural analysis | The desirable behaviours can be fixed as the 'criterion'  | B |
| 3 | Criterion Reference Tests       | finding out the relationship that is between the child's behaviour and the environmental influences that could maintain or cause it | C |
| 4 | Competency checklists           | interactions between situations and behaviours  | D |
| 5 | Functional assessment           | one way of validating competence  | E |

**1.1.3.2. Purposes and Approaches of Assessment in Cognitivist paradigm**

In contrast to behaviourism the cognitive theorists, such as Piaget believed that learning is an integral process in which new information is assimilated into one's cognitive processes. Piaget identified four stages of cognitive development i.e. sensory-motor stage (0-2years), pre-operational stage (2-7 years), concrete operational stage(7-12years), and formal operational stage (12-adult). According to Piaget, these stages play a crucial role in the learning of children and they cannot learn certain things until they have reached that level of cognitive development. In other words, the mental readiness of the learner plays a crucial role in learning and should be considered for assessment as well. The 'child-centered' approach to learning evolved out of Piaget's cognitive development theory which was further reinforced by Bruner with emphasis on 'active learning'. Both Piaget and Bruner stressed the importance of activity in learning which the learner can observe, practice, manipulate, modify, and construct his/her knowledge. They also stressed relating new learning to the previous experiences of the learners. Piaget recommended giving challenging tasks to

activate the thinking process which may facilitate the learner to reach equilibrium through the process of adaptation. From Piaget's perspective though the task/ activity may be challenging it should be according to the appropriate developmental stage of the learner, otherwise, the learner may not be able to learn. Therefore, from the cognitive perspective, the cognitive development of the learner determines the assessment method and tools to be used to assess the performance of learners. There is no single or uniform method of assessment from this perspective. Assessment is not linear from this perspective; instead, it is a spiral and continuous process. Therefore, as a teacher, you have to inbuilt assessment in the activity itself and determine the assessment procedure according to the developmental stage, experience, and exposure of the learner.

### **Purpose of Assessment implied by Cognitivists:**

- To explain and predict student performance on assessment tasks in terms of profiles of student
- To identify the skills and corresponding task requirements (in terms of cognitive abilities).
- To identify the attributes that have been mastered by the student and those that have not been mastered.
- To get an estimation of student's mastery of a topic or lack of it
- To find out the type of guidance required of students
- to provide a coherent and instructionally relevant explanation of student performance
- To model learning in terms of a progression of increasingly sophisticated levels of mastery of a domain or discipline.
- To define the levels in the progression in terms of mastery of the core principles and methods in the discipline
- To identify the level of achievement in general competencies in the discipline
- To estimate the competence in the discipline and to provide meaningful intermediate goals, or stages, that can be used to guide instruction.
- To guide instruction and learning,
- To design meaningful goals for instruction and learning.
- To describe the growth of students in different cognitive abilities
- To informing the curriculum about needed changes.
- To describe what students know and can do.

### **Approaches for Assessment according to Cognitivists:**

**Cognitive assessment (or intelligence testing)** is used to determine an individual's general thinking and reasoning abilities, also known as intellectual functioning or IQ. Intelligence testing can assess various domains of a child's cognitive capacity as the following:

- Verbal comprehension: understanding verbal information, thinking in words, and expressing thoughts in words
- Perceptual reasoning: the ability to organise and reason with visual information, and to solve visual problems
- Visual-Spatial – measures the child's verbal reasoning, understanding, concept formation, and knowledge
- Fluid Reasoning – measures the child's ability to solve novel problems independent of previous knowledge
- Working Memory – measures the child's ability to learn, manipulate and retain information to complete new tasks
- Processing Speed – measures the child's ability to quickly process and make decisions about visual information

- Social readiness: Measures the ability to socialise and play with classmates

The approaches related to behaviourism also can be used to assess objectives derived from cognitivism.

### Check Your Progress - 2

Match the items in list ‘A’ with the items in list ‘B’

|   | Test aspects         | Behaviours assessed   |   |
|---|----------------------|---|---|
| 1 | Verbal comprehension | measures the child’s ability to quickly process and make decisions about visual information | A |
| 2 | Perceptual reasoning | measures the child’s ability to solve novel problems  | B |
| 3 | Fluid Reasoning      | understanding verbal information  | C |
| 4 | Social readiness     | ability to organise and reason with visual information                                      | D |
| 5 | Visual Spatial       | measures ability to socialise and play with classmates                                      | E |
| 6 | Working Memory       | measures verbal reasoning   | F |
| 7 | Processing Speed     | measures the child’s ability to retain information to complete new tasks                    | G |

### 1.1.3.2. Purposes and Approaches of Assessment in Constructivist paradigm

#### Constructivism

Let us now discuss how the concept of assessment has been reconceptualised due to change in learning theories from behaviourist to constructivist perspectives. Constructivism believes in the active involvement of the learner in the process of learning. Learner’s personal experiences play an important role in constructivist learning and each learner generates his/her own rules and mental models which are used to make sense of experiences. According to constructivism, knowledge is actively constructed by individuals and learning is an adaptive process based on these experiences. Consequently, the mechanistic view of learners as a passive recipient of knowledge has been replaced by the view of learners as situated and active knowledge constructors. Therefore, while from a behaviourist perspective anything can be taught with the help of reinforcement, from a constructivist perspective previous experience of the learner is more important and a deciding factor in learning. Knowledge according to constructivist epistemology cannot be transferred uniformly to all learners, hence teaching and learning cannot be synonymous. For instance, in a class, a teacher teaches the same content to the whole class but learners process the information according to their own experiences and learn differently from the same content.

A basic premise of constructivism is that individuals live in their world of personal and subjective experiences and build new knowledge based on their previous experiences, rather than new knowledge being imposed from outside. This premise of learning includes how children learn, as well as learning with understanding, and not limited to what they learn, that is, the end product acquired through rote memorization. Therefore, assessment is directed towards assessment of understanding the learners rather than their surface knowledge and ability to recall facts. As the constructivist perspective of learning emphasizes the

experiences of learners and their socio-cultural contexts in the learning process, organizing new information around the existing conceptual framework of learner facilitates learning. Concept mapping, therefore, plays a very crucial role in constructivist learning and facilitates the transfer of learning and problem solving from one conceptual framework to another. Assessment from this perspective has to be context-specific and cannot be uniformly used for all learners. Usually, children in schools come from different socio-cultural backgrounds. Tribal children, for instance, often have difficulty in communicating and understanding standard language due to their unfamiliarity with the standard language used in school. Therefore while assessing the language ability of such children, a differential assessment procedure has to be adopted. It is expected to assess learner's ability to link ideas, apply knowledge, and solve problems. The assessment process is expected to challenge the incomplete understanding and pre-concepts of learners and should help the learner to modify and refine their thinking through appropriate scaffolding and feedback. It means that you cannot use a single standardized test on all the learners and have to adopt a variety of assessment tools. Assessment from this perspective should provide feedback on how learning is taking place and how it can be ensured in the future. In other words, assessment should reflect not only the present level of development of learner but also the level of potential development. The constructivist learning approach, therefore, encourages an assessment culture where assessment is embedded in the whole teaching-learning process and focuses on 'assessment of the process of learning in addition to that of its product'. Hence multiple assessment procedures are used to develop learner's profiles through authentic, contextualized assessment tools. Learners become engaged participants in sharing and developing criteria, in self and peer assessment, reflecting on their learning, keeping track of their performance, and utilizing feedback to refine their knowledge, skills, and behaviours. Teachers facilitate learners to develop strategies for learning and assessing. Assessment, therefore, is a spiral and formative while from a behaviourist perspective, assessment is considered as a linear and summative process. To summarise, the focus of assessment, from a constructivist perspective has shifted from the assessment of learning to assessment for learning.

### **Student Evaluation in Constructivist Model of Learning**

Formalization of the theory of constructivism is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. He suggested that through processes of accommodation and assimilation, individuals construct new knowledge from their experiences. "Teaching is not about filling up the pail, it is about lighting a fire" Constructivism: focuses on knowledge construction. It is a theory of knowledge that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. Constructivism is a theory of knowledge that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. It has influenced several disciplines, including psychology, sociology, education, and the history of science. When individuals assimilate, they incorporate the new experience into an already existing framework without changing that framework. This may occur when individuals' experiences are aligned with their internal representations of the world, but may also occur as a failure to change a faulty understanding; for example, they may not notice events, may misunderstand input from others or may decide that an event is a fluke and is therefore unimportant as information about the world. In contrast, when individuals' experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations. According to the theory, accommodation is the process of reframing one's mental representation of the external world to fit new experiences. Accommodation can be understood as the mechanism

by which failure leads to learning: when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure, or others' failure. It is important to note that constructivism is not a particular pedagogy. Constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture or following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences.

### **Assessment in Constructivist Model of Learning**

Constructivism is often associated with pedagogic approaches that promote active learning or learning by doing. The view of the learner changed from that of a recipient of knowledge to that of a constructor of knowledge, an autonomous learner with metacognitive skills for controlling his or her cognitive process during learning. Learning involves selecting relevant information and interpreting it through one's existing knowledge. Accordingly, the teacher becomes a participant with the learner in the process of shared cognition, that is, in the process of constructing meaning in a given situation. Concerning instruction, the focus changed from the curriculum to the cognition of the student. Thus, instruction is geared toward helping the student to develop learning and thinking strategies that are appropriate for working within various subject domains. Correspondingly, assessment is qualitative rather than quantitative, determining how the student structures and processes knowledge rather than how much is learned. The continuous and comprehensive assessment is one of the main strategies in constructivist learning. This assessment is formative rather than summative. Weightage to learning objectives in the assessment is given based on the revised Bloom's taxonomy.

### **Purpose of Assessment implied by Constructivists:**

- To ensure that authentic tasks are anchored in meaningful contexts.
- To check whether the child has continuously constructing knowledge from introductory to expert level.
- To help individuals to discover, negotiate, and modify the misconceptions and biases acquired.
- To identify appropriate methods and strategies to help students to construct knowledge
- To facilitate the construction of learning by providing an appropriate environment
- To help learners to validate the knowledge already acquired
- TO facilitate the inquiry process throughout the learning process
- To ensure that students come out with multiple interpretations
- To ascertain that students are motivated and accepted to work on individual construction and interpretation of knowledge
- To ensure that teachers have meaningful strategies to facilitate students' learning
- To critically examine whether the assessment processes are in favour of helping students to learn further.
- TO help students to document their growth and motivate them to learn further

### **Approaches for Assessment according to Constructivists:**

#### **1. Concept map and Assessment**

Concept maps have their roots in the cognitive theory of Ausubel (1963) that was part of the constructivism movement in educational psychology (Novak and Canas, 2011). In

particular, this branch of science holds that learners actively construct and assimilate new concepts through prior knowledge (Ausubel et al., 1978). Concept mapping is considered a powerful tool to enhance meaningful learning and an innovative way to assess the acquisition of knowledge in students. Concept mapping as a complement to traditional evaluation systems, allowing teachers to determine whether the performance achieved by the students comes from high levels of conceptual understanding.

One very significant feature of formative assessment is the full involvement of pupils during lessons. The use of concept maps is one way how to integrate pupils into the learning process. This involvement motivates and challenges pupils to such an extent that it increases the chances for learning to take place. Many of us are familiar with the term 'brainstorming', but not so much with 'concept mapping' although the term has been in use since the 1960s. Usually, the concept map is formed by placing the subject in a prime position in the diagram. The subject is broken down into simpler themes, facts, or opinions and therefore it becomes easier for children to comprehend the subject that is being studied.

### **Ways of Assessing**

An important aspect of effective teaching is a careful assessment of how much students have learned. There are two ways in which concept maps assess student's learning:

- i. Concept map displays new knowledge acquisition more effectively than traditional expository methods such as essay writing. (Calderon-steck,2006)
- ii. Concept maps assess meaningful learning, or connections between old and new knowledge, more effectively than traditional expository assessment methods (Ausubel, 1968; Hay *et al.*2008)

### **2. Portfolio**

A portfolio is a purposeful collection of purposeful student works. It is a running record of students writing performance over time. It is also the living proof to show students themselves how much they have done or they haven't done. Constructivism is based on Piaget's and Vygotsky's assuming that students can acquire and socially construct their knowledge and understanding. This approach pays more attention to students' prior learning, problem-solving skills, and collaborative learning (Baki, 1994). However, in this new environment students' learning cannot be assessed within a shorter time using multiple-choice tests. Therefore, it is needed a broader range of assessment tools that be able to assess the students' skills such as open-ended problem solving, and critical thinking, analyzing, reasoning, be able to apply their knowledge in new problems, and to express oral and writing. Further, constructivist epistemology requires us to assess students' performance and group performance together during their learning experience (Sheppard, 2000).

**Rubrics:** Rubrics are an authentic assessment tool used to measure students' work. It is a scoring tool for subjective assessments. Rubrics are guidelines that enable the assessment process of communicating expectations; providing focused ongoing feedback; and grading. A rubric is defined as a document that articulates the expectations for an assignment by listing the criteria. A rubric is a way to grade student work. It is a description of the assignment or task laid out on a grid.

### Assessment Process:

The assessment process in a constructivist class room are as follows:

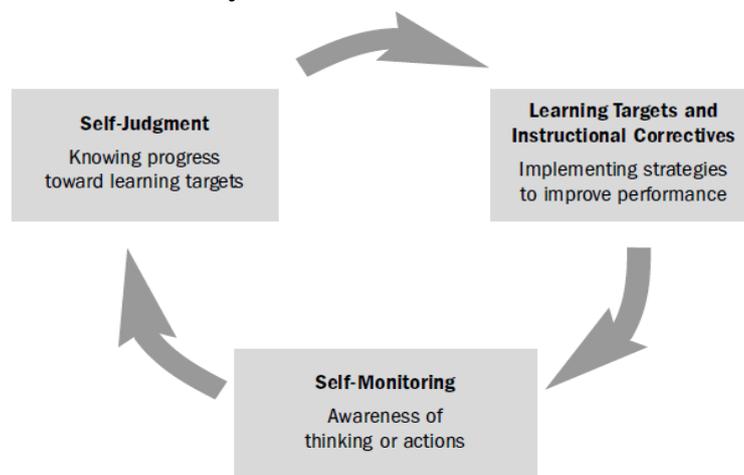
- (A) Self-assessment
- (B) Peer assessment
- (C) Collaborative assessment

#### (A) Self-assessment:

Self-assessment could mean that students simply check off answers on a multiple-choice test and grade themselves, but it involves much more than that. Self-assessment is more accurately defined as a process by which students 1) monitor and evaluate the quality of their thinking and behaviour when learning and 2) identify strategies that improve their understanding and skills. That is, self-assessment occurs when students judge their work to improve performance as they identify discrepancies between current and desired performance. This aspect of self-assessment aligns closely with standards-based education, which provides clear targets and criteria that can facilitate student self-assessment. Finally, self-assessment identifies further learning targets and instructional strategies (correctives) students can apply to improve achievement.

Thus, self-assessment is conceptualized here as the combination of three components related in a cyclical, ongoing process: self-monitoring, self-evaluation, and identification and implementation of instructional correctives as needed. Essentially, students identify their learning and performance strategies, provide feedback to themselves based on well-understood standards and criteria, and determine the next steps or plan to enhance their performance.

#### Student Self-Assessment Cycle



#### (B) Peer Assessment

There are many variants of peer assessment, but essentially it involves students providing feedback to other students on the quality of their work. In some instances, the practice of peer feedback will include the assigning of a grade, but this is widely recognized to be a process that is fraught with difficulties.

Peer assessment requires students to provide either feedback or grades (or both) to their peers on a product or a performance, based on the criteria of excellence for that product or event that students may have been involved in determining.

**(C) Collaborative Assessment:** Collaborative assessment is a problem-solving process, originally developed by Bruce Chalmer, that can be used as an alternative to psychological evaluation. It draws from the ideas and techniques of narrative therapy

### Check Your Progress - 3

Match the items in list 'A' with the items in list 'B'

|   | <b>Evaluation devices</b>     | <b>Behaviours assessed</b>  |   |
|---|-------------------------------|---|---|
| 1 | Concept map                   | purposeful collection of purposeful student works.                                      | a |
| 2 | Portfolio is a                | by which students monitor and evaluate the quality of their thinking when learning      | b |
| 3 | Rubrics is a                  | problem-solving process   | c |
| 4 | Self-assessment is a process  | displays new knowledge acquisition more effectively than traditional expository methods | d |
| 5 | Peer Assessment involves      | scoring tool for subjective assessments   | e |
| 6 | Collaborative assessment is a | students providing feedback to other students on the quality of their work.             | f |

#### 1.2.4. Let us Summarise

- Assessment is focused towards improving learning and identifying the requirements to improve learning in the context. The focus of assessment however changes according to different theories on learning, since the concept of learning has been perceived differently by different theorists.
- There is no single definition on learning agreed by all at all times. Learning has been defined differently by different theorists
- The concept of assessment in each of the theories is different. Behaviourist, cognitivist and constructivist theories of learning have their own implications for assessment and evaluation.
- Accordingly, the meaning of learning, the processes and approaches of assessment and evaluation are different according to different theorists.

#### 1.2.5. Answer to Check Your Progress - 1, 2 and 3

##### Check Your Progress - 1

1-d, 2-a,3-b, 4-e,5-c

##### Check Your Progress - 2

1-c,2-d,3-b,4-e,5-f,6-g,7-a

##### Check Your Progress - 3

1-d,2-a,3-e,4-b,5-f,6-c,

### 1.2.6. Unit end Exercises

1. Explain the behaviourist concepts of assessment, evaluation and the related purposes and approaches.
2. Explain the cognitivist concepts of assessment, evaluation and the related purposes and approaches.
3. Explain the constructivist concepts of assessment, evaluation and the related purposes and approaches.

### 1.2.7. References

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## **Block 1 : Assessment and Evaluation-An Overview**

### **Unit 3 : Perspective of Assessment and Evaluation for Learning in a Constructivist Paradigm**

#### **Unit Structure**

- 1.3.1. Learning Objectives
- 1.3.2. Introduction
- 1.3.3. Learning Points and Learning Activities
  - 1.3.3.1. Perspective of Assessment ‘for learning’ in a constructivist paradigm  
Check Your Progress - 1
  - 1.3.3.2. Perspective of Evaluation ‘for learning’ in a constructivist paradigm  
Check Your Progress - 2
- 1.3.4. Let us Summarise
- 1.3.5. Answers to ‘Check your Progress - 1 and 2
- 1.3.6. Unit end Exercises
- 1.3.7. References

#### **1.3.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Explain the nature of 'assessment ‘for learning’ in a constructivist paradigm;
- Analyse the nature of Evaluation ‘for learning’ in a constructivist paradigm; and
- Identify the ways of assessment and evaluation ‘for learning’ in constructivist paradigm.

#### **1.3.2. Introduction**

We have discussed the principles of constructivism and its implications for learning. Constructivism differs from other approaches concerning the ways of using assessment in the total learning process. Assessment is not the endpoint of learning in constructivism but another important process on the continuum of learning and thus assessment is considered as important as learning. Let us see in this unit, why and how assessment occupies a pivotal place in constructivism and how assessment, according to constructivism contributes ‘for learning’.

#### **1.3.3. Learning Points and Learning Activities**

##### **1.3.3.1. Perspective of assessment ‘for learning’ in a constructivist paradigm**

Constructivists believe that assessment should be employed as a tool to provide understanding for both the student and teacher and to further the student's learning in general. There are a few major implications of constructivism for assessment. These help us to understand the perspective of constructivism ‘for assessment’.

- Assessment is not just for the sake of assessing or to assign some marks or grades for students
- Assessment is a tool for learning, to continue learning and to strengthen learning
- Assessment and learning are associated processes to improve learning
- The assessment gives cues for students what to learn and how to learn
- Learning and assessment are deliberate and active processes

- Learning is the responsibility of the learner and the teacher should facilitate learning through the assessment process
- The process of learning does not stop at assessment but becomes more crucial and meaningful during and after assessment.
- Several techniques give better results for the assessment and promote learning.
- Assessment includes the process of inquiry on the part of students.
- Students go beyond the initial information level of learning as a result of the assessment and achieve higher-order objectives.
- Students reconceptualise knowledge as a result of the assessment.
- Students interact with each other in all circumstances including the process of assessment.
- Reflection on assessments builds understanding for deeper understanding and appreciation of the creative, generative processes of learning.

According to constructivists, the assessment process has to focus on three steps:

- The teacher must help students understand from the outset the criteria by which their work will be judged.
- Students must document their work process for the duration of learning of a unit
- Through performance and feedback, students come to understand the complex nature of judging and improving upon one's work.

Further discussions help us to understand how the constructivist paradigm contributes 'for learning' in the total process of learning.

Constructivists say that people construct their understanding and knowledge of the world, through experiencing things and reflecting on those experiences. Further reflection also will enhance and strengthen knowledge. Assessment contributes to this enhancement of learning.

When an individual encounters something new, he/she has to merge it with their previous ideas and experience, maybe changing what they were believing so far, or maybe discarded new information as irrelevant. In any case, they are active creators of new knowledge. To do this, one has to ask questions, explore, and assess what they know. Assessment is a continuous and formative process and at every stage, the teacher facilitates students for learning by prompting students to formulate their questions(inquiry)

A constructivist approach to assessment is formative rather than summative. Its purpose is to improve the quality of student learning. The assessment has to respond to the particular needs and characteristics of teachers, students.

According to constructivists, assessment is context-specific. What works well in one class will not necessarily work in another. Therefore, to a large extent assessment processes are not pre-determined.

Assessment is an ongoing process. Teachers get feedback from students on their learning. This feedback is compiled with the feedback of teachers and peers, and the learners can prepare consolidated feedback that will help further learning. Here, the teachers are expected to discuss the learning plans and assessment plans with the students. Students have to be made aware of what they are going to learn and the procedures of assuring that they have learned or what is called the assessment process. No judgment will be taken at the first sight about the performance of the individual.

The student should be given appropriate feedback to continue the course of learning. Feedback should be given to individuals on their performance as soon as possible after the performance; it should be specific and focused on the task, should aim to correct errors or inadequacies, and should have a diagnostic function.

The process of learning continues till the expected objectives are achieved. The learner keeps assessing his/her learning and takes decisions and plans for future learning. Of course, each step will be carried out with the help of the facilitator. Due to the holistic vision of constructivism, the assessment should focus on the whole person. It also needs to respect multiple cultures and perspectives. It should enable students from all cultural backgrounds to demonstrate their skills, and not unfairly disadvantage some students. The assessment should ultimately direct to develop the ability of self-assessment as to the highest form of assessment. It should lead to insights into self-assessment and self-reflection.

According to constructivists, planning for learning should include strategies to ensure that learners understand the goals they are pursuing and the criteria that will be applied in assessing their work. How learners will receive feedback, how they will take part in assessing their learning, and how they will be helped to make further progress should also be planned. The process of learning has to be in the minds of both learner and teacher/instructor when the assessment is planned and when the evidence is interpreted. Learners should become aware of the 'how' of their learning as they are of the 'what'. Giving feedback should be as constructive as possible to support learners in self-assessment. In this paradigm, assessment and learning are closely and intimately tangled.

Constructive assignments can be of different types. It may ask learners to supply answers, perform observable acts, demonstrate skills, create products, and supply portfolios of work. Assessment is seen as an integral part of the instructional process.

The following are the pillars of assessment according to constructivism:

- Assessments should take place in a context.
- Assessments should be longitudinal. The teacher needs to assess the student over a period of time but not at a time.
- Assessment is a collaborative process
- Assessment is a collaborative process where teachers, students, peers, and others are involved.

The assessment takes different forms like making the students write essays, performance tests, open-ended statements to justify a position, products, or interviews. There are no grades, scores, or marks.

### **Check Your Progress - 1**

Identify the statements that are 'false' and 'true' in the context of constructive paradigm in the list given below:

1. Assessment is the responsibility of the teacher
2. The grade should be assigned at the end of the assessment
3. Assessment starts when learning stops
4. Assessment procedures should be planned solely by teachers
5. Feedback is taken from teachers
6. Assessment is context-specific.
7. The assessment gives cues for further learning
8. Assessment is a formative process

### **1.3.3.2. Perspective of Evaluation for Learning in a Constructivist Paradigm**

From a constructivist point of view, the process of learning is emphasized over the end product. Constructivism favours evaluation for and as learning (formative and self-assessment), as opposed to evaluation of learning (summative assessment). While behaviourism and cognitivism focus on measuring specific outcomes objectively, constructivists tend to subjectively assess student work. The journey in attaining knowledge is as important as the actual knowledge itself.

Evaluation in constructivism focuses on the process that the individual learner takes in the process of knowledge creation. Each learner is perceived to be different from individual strengths, weaknesses, and previous knowledge and experiences. The evaluation focuses on how a learner can learn new material by linking it with previous knowledge to create lasting ties in the learner's mind. Through this linkage, students are evaluated on their ability to apply learning to real-life contexts.

Within a constructivist classroom, evaluation takes the form of endless methods designed to focus on the processes that a learner has used to gain knowledge. Through self-assessment and reflection, the learner strengthens his/her linkages within the mind. The teacher uses many formative assessment methods to monitor the learner's process and determine how the learner is learning.

Evaluation of a constructivist learning experience can be used to determine if a student can complete an authentic task, using tools and understandings within a particular content domain to solve a particular problem, by determining if the task is completed or not. As well, evaluation of a constructivist learning experience could be accomplished by reflection and documentation on how a student or group of students came to a particular conclusion. The following list provides some parameters for evaluation in constructivist environments:

Incorporate assessment as part of the teaching experience throughout the learning process as opposed to an exercise at the end of the task.

- Critique and discuss products such as portfolios, projects, compositions, and performances that are grounded in authentic assessment.
- Use work products to complement the summative assessment. This can be particularly effective when the critiquing process utilizes different perspectives.
- Evaluate processes for learning by using strategies such as debriefings, abstracted replays, dramatizations, interviews, group discussions, knowledge telling, co-investigation, and post mortems of problem-solving activities.
- Use informal assessment based on teacher observations such as eye contact, body language, facial expression, and work performance to complement formal assessment.

For constructivists, the differences in the way of constructing and applying knowledge by each individual is a very natural phenomenon. This is because each learner is perceived to be different with individual strengths, previous knowledge, and experiences.

The nature of evaluation itself in the constructivist paradigm is for learning or towards contributing learning. The following aspects are important in this regard.

- Evaluation should aim at finding out the ability of the learner to apply knowledge created, in new situations.

- Evaluation procedures should allow learners to demonstrate the knowledge and skill gained by students. This means that the knowledge should be performance-based.
- The evaluation process does not stop with teachers or administrators. The major roles are played by peers and the student himself or herself. The feedback received by these sources helps the learner to strengthen his learning.
- Evaluation is comprehensive to involve more than one specific technique or method of evaluation. The process of evaluation includes several techniques as per the need of the objectives.
- The procedure of evaluation is followed by a reflection on feedback by the learners.
- The students are guided to understand the feedback received and implement and proceed through the course of learning

In the constructivist paradigm, the type of evaluation, to a large extent, is formative rather than summative. A few examples of evaluation procedures can be as follows:

### Teacher Evaluation:

Observation is the major technique used in the constructivist evaluation. A teacher can record an event as the learner is involved in the activity through observation and record how the learner is collaborating with others, what are the learning styles followed, what attitudes and behaviours are exhibited etc. The teacher can identify which goals of learning are accomplished and yet to accomplish. The teacher can even identify the links between previously learned knowledge and new knowledge. The teacher can use a checklist to facilitate observation as follows:

| <b>Goals accomplished</b>                   | <b>Goal 1</b>   | <b>Goal 2</b>   | <b>Goal 3</b>   |
|---|---|---|---|
| Linking previous knowledge to new knowledge | Able to link properly/not properly linked                               | Able to link properly/not properly linked                               | Able to link properly/not properly linked                               |
| Collaboration with others                   | Good/satisfactory/not satisfactory                                      | Good/satisfactory/not satisfactory                                      | Good/ satisfactory/not satisfactory                                     |
| Attitude of student                         | Positive and supportive to achieve the goal/not positive and supportive | Positive and supportive to achieve the goal/not positive and supportive | Positive and supportive to achieve the goal/not positive and supportive |
| Behaviours of learners                      | Co-operative, functional, supportive/not co-operative                   | Co-operative, functional, supportive/not co-operative                   | Co-operative, functional, supportive/not co-operative                   |
| Involvement                                 | Good/satisfactory/poor  | Good/satisfactory/poor  | Good/satisfactory/poor  |
| Learning Styles                             | Visual/ auditory/ tactual   | Visual/ auditory/ tactual   | Visual/ auditory/ tactual   |

The teacher can consolidate the observations and give feedback to learners.

## Peer Evaluation

Peer Evaluation is a useful technique in constructivist evaluation. For example, a collection of art craft of students can be exhibited to give feedback by all students. The students can be asked to give feedback for each of the items, and the feedback for each student about their product can be given to improve the same.

An E-portfolio is a collection of artifacts created by a student or group of students that are usually stored online in an electronic repository. The work that goes into an e-portfolio involves a fairly in-depth process that is developed over time - a period of months or more.

Characteristics include:

1. Steps such as thinking, planning, reflecting, and organizing.
2. The learner choosing pieces of work from an overall, bigger collection of work.
3. The process of being reflective, developmental, and self-directive over a sustained period.
4. The culminating goal of presenting work to be reviewed and assessed by other students or another party.

## Self-Evaluation

The teacher along with students can decide the objectives of a particular learning task. The objectives should be dissected in such a way that the learner should be able to easily identify the tasks to be completed at each stage. The students shall be allowed to go through the learning process. The students can be encouraged to assess their learning and identify and record, whether they have achieved the specific objectives, if so, how they were able to achieve, if not, why they were not able to achieve the objectives. The learner at the end of the activity will be in a position to proceed to the next stage of learning based on the results of self-assessment.

## Check Your Progress - 2

Match the segments in list 'A' and list 'B' to make meaningful statements in the context of constructivist evaluation.

|   | List 'A'                        | List 'B'                                      |   |
|---|---------------------------------|---|---|
| a | Use informal assessment         | to demonstrate the knowledge and skill gained | 1 |
| b | Give learners the opportunity   | as part of the teaching experience            | 2 |
| c | Use work products               | is for learning                               | 3 |
| d | The nature of evaluation itself | to complement summative assessment            | 4 |
| e | Incorporate assessment          | based on teacher observations                 | 5 |

### 1.3.4. Let us Summarise

- Constructivists believe that assessment should be employed as a tool to provide understanding for both the student and teacher and to further the student's learning in general. There are a few major implications of constructivism for assessment.
- According to constructivists, assessment process has to focus on three steps: The teacher must help students understand from the outset the criteria by which their work will be judged, Students must document their work process for the duration of learning of a unit, Through performance and feedback, students come to understand the complex nature of judging and improving upon one's work.

- Constructivist approach to assessment is a formative rather than a summative. Its purpose is to improve the quality of student learning. Assessment has to respond to the particular needs and characteristics of teachers, students.
- The pillars of assessment according to constructivism are assessments should take place in a context, assessments should be longitudinal, the teacher needs to assess the student over a period of time but not at a time, assessment is a collaborative process where teachers, students, peers and others are involved.
- Constructivism favours evaluation for and as learning (formative and self-assessment), as opposed to evaluation of learning (summative assessment). While behaviourism and cognitivism focus on measuring specific outcomes objectively, constructivists tend to subjectively assess student work.
- Evaluation in constructivism focuses on the process that the individual learner takes in the process of knowledge creation.

### **1.3.5. Answers to ‘Check Your Progress - 1 and 2’**

#### **Check Your Progress - 1**

1,2,3,4,5 -False,6,7,8-True

#### **Check Your Progress - 2**

a-5, b-1, c-4,3, d-e-2

### **1.3.6. Unit end Exercises**

1. Explain the perspective of assessment and evaluation ‘for learning’ in a constructivist paradigm

### **1.3.7. References**

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## **Block 1 : Assessment and Evaluation-An Overview**

### **Unit 4 : Assessment for Learning, Assessment as Learning and Assessment of Learning**

#### **Unit Structure**

- 1.4.1. Learning Objectives
- 1.4.2. Introduction
- 1.4.3. Learning Points and Learning Activities
  - 1.4.3.1. Understanding the concept of ‘Assessment for Learning’  
Check Your Progress - 1
  - 1.4.3.2. Understanding the concept of ‘Assessment as Learning’  
Check Your Progress - 2
  - 1.4.3.3. Understanding the concept of ‘Assessment of Learning’  
Check Your Progress - 3
  - 1.4.3.4. Difference among the concepts of ‘Assessment of Learning’, Assessment as Learning’ and ‘Assessment of Learning’  
Check Your Progress - 4
- 1.4.4. Let us Summarise
- 1.4.5. Answers to ‘Check Your Progress - 1, 2, and 3’
- 1.4.6. Unit end Exercises
- 1.4.7. References

#### **1.4.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Explain the concept of ‘assessment for learning’ and its implications;
- Explain the concept of ‘assessment as learning’ and its implications;
- Explain the concept of ‘assessment of learning’ and its implications; and
- Identify the differences among the concepts of ‘assessment for learning’, ‘assessment as learning’ and ‘assessment of learning’.

#### **1.4.2. Introduction**

If you go through the literature on assessment practices in schools, you will notice a significant transition in the methods, techniques used by teachers especially in developed countries which are yet to enter in a great way in the Indian situation. Different concepts related to assessment are found in the field to make assessment practices more meaningful and functional. This has resulted in looking at the concept of assessment from a new perspective. There are good reasons for this transition which can be attributed mainly to the changes in the perspectives of learning. Accordingly, there are three widely recognized approaches in current literature, namely, ‘assessment for learning’, ‘assessment as learning’, and assessment of learning’. Let us understand the meaning of these concepts in detail and identify the implications of these concepts in assessment procedures. Let us make attempts to identify the differences among these three significant practices.

Let us understand these three concepts regarding the following aspects:

### **1.4.3. Learning Points and Learning Activities**

#### **1.4.3.1. Understanding the concept of ‘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 go there. Assessment for learning is also known as formative assessment (UK 2002 Assessment Reform Group).

The ongoing process of gathering and interpreting evidence about student learning to determine where students are in their learning, where they need to go, and how best to get there.

#### **Nature of ‘Assessment for Learning’**

Assessment for Learning is based on extensive research conducted by Paul Black and Dylan William. In their 1998 study *Inside the Black Box*, they refined the term ‘formative assessment’ by emphasising that assessment is only formative when: it is an integral part of the learning and teaching process; and assessment evidence is used to: modify teaching to meet the needs of pupils; and improve learning.

Assessment for learning is inevitably part of classroom activities. It is a fundamental process required to promote learning and ultimately achievement. In this approach, learners need to know and understand the following before learning can take place: What is the aim of the learning? Why do they need to learn it? Where are they in terms of achieving the aim? How can they achieve the aim?

When learners know and understand these principles, the quality of learning will improve. Sharing this information with learners will promote ownership of the learning aims and a sense of shared responsibility between the teacher and learner to achieve those aims. Improving learners’ confidence and self-esteem reflects positively in learners’ work and their motivation is improved.

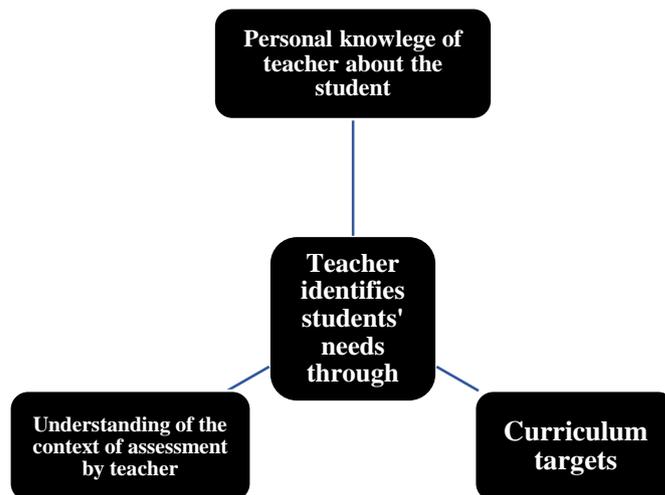
Assessment for Learning is all about informing learners of their progress to empower them to take the necessary action to improve their performance. Teachers need to create learning opportunities where learners can progress at their own pace and undertake consolidation activities where necessary. Assessment for Learning strategies should be implemented in such a way that quality feedback provided to learners will help to challenge the more able learner to reach new levels of achievement and, in doing so, reach their full potential. The individuality of feedback, by its very nature, has the facility to support weaker learners and challenge more able learners.

We know that much classroom practice can be described as assessment activities. Teachers set tasks and activities and pose questions to learners. respond to the tasks, activities, and questions. The teachers make judgments on the learners’ knowledge, understanding, and skills acquisition as evidenced in the learners’ responses. These judgments on learners’ performance happen quite naturally in the course of any teaching and learning session. This requires two-way dialogue. The teacher is responsible for decision-making. The teacher communicates these decisions in the form of feedback to the learners on their performance. The quality of learning depends on how successfully these classroom practices have been undertaken. At the end of each session, teachers ask themselves: What do learners know now that they did not know before they attended the session?

Assessment for Learning offers an alternative perspective to traditional assessment in schools. Simply put, Assessment for Learning shifts the emphasis from summative to formative assessment, from making judgments to creating descriptions that can be used in the service of the next stage of learning. Robert Stake has beautifully expressed the role of formative and summative evaluation, when he says, “When the cook tastes the soup, that’s formative; when the guests taste the soup, the summative.”

In the process of assessment for Learning, teachers collect a wide range of data so that they can modify the learning work for their students. The assumption underlying this approach is classroom assessment can enhance learning. The teacher’s design assessment tasks in such a way that they help teachers to know what students know and can do already. They use these insights to design the next steps in observation, worksheets, questions in class, and other learning situations. Whatever way they present the judgments about the performance, they should highlight the strengths and weaknesses of students. These are the cues for both teachers and students for further learning plans.

Teachers are the central characters in Assessment for Learning as well, but their role is quite different from the other two approaches of assessment. In Assessment for Learning, the teachers use three types of knowledge as shown below to identify the needs of learners.



They use their knowledge of the students and their understanding of the context of the assessment and the curriculum targets to identify particular learning needs. Assessment for learning happens in the middle of learning, often more than once, rather than at the end. It is interactive, with teachers assisting as part of the assessment.

It helps teachers provide feedback to scaffold the next steps. And it depends on teachers’ diagnostic skills to make it work.

It is important to remember Hynes (1991) in this context. He said, ‘In reality, it is through classroom assessment that attitudes, skills, knowledge, and thinking are fostered, nurtured and accelerated – or stifled.’

The following list consolidates the nature of ‘assessment for learning’:

- Does not stop at a point but continues till the learning task is completed
- Contributes and encourages learning

- Is a cooperative task of both student and teacher
- Believes in using a variety of assessment methods to make decisions for further planning
- The results reveal the strengths and limitations of learning
- Results of assessment are further utilised for improving learning
- Learning goals are intimated to the learner and learners' understanding in this regard is ensured
- No grades or scores are assigned
- Record is maintained in anecdotal and descriptive form
- Based on the assumption that assessment helps to learn better.
- Involves formal and informal assessment activities as part of learning and assessment
- Goals of learning are very clear and specific
- Encourages self-assessment as well as peer assessment
- The results of the assessment are obvious for both learners and teachers
- Is inclusive of all learners.
- Motivation is inbuilt since the learner is continuously guided in the process of learning
- Contributes to teachers to plan further activities for learning.

**Five main processes take place in assessment for learning:**

- (i) Questioning enables a student, with the help of their teacher, to find out what level they are at.
- (ii) The teacher provides feedback to each student about how to improve their learning.
- (iii) Students understand what successful work looks like for each task they are doing.
- (iv) Students become more independent in their learning, taking part in peer assessment and self-assessment.
- (v) Summative assessments (e.g. the student's exam or portfolio submission) are also used formatively to help them improve.

**Teachers' role in 'Assessment for Learning'**

The teacher acts as a mentor, doctor, reporter, and director in this approach. They provide feedback and support for each student. The teacher collects data and identifies the problems. They involve themselves in the process of diagnosis. Teachers also work as reporters and report to parents, students, and the school administration about students' progress. As a director, they take decisions and give instructions about how the process should continue in the immediate future, through meticulous planning of instruction.

The specific tasks of teachers in assessment for learning approach are the following.

- Gives instruction in view of targeted outcomes
- Identifies particular learning needs during different sessions of learning
- Selects and adapts materials and resources
- Plans the course of learning
- Creates differentiated teaching strategies and learning opportunities for students to move forward in the process of learning
- Provides immediate feedback for students
- Ensures that learning has taken place
- Makes attempts to enhance students' motivation and commitment to learning
- They see that classroom culture is conducive to learning

- They try to make learning convincing for students
- They ensure that learning is manageable for students.
- They observe keenly how students are making connections between previous and present learning and plan further learning situations.
- They are keen on tasks that expose students' knowledge, skills, and attitudes.

### **Planning Procedure**

Learning in a formal situation is a planned process. It is an essential part of a teacher's workload. Teachers need to plan and create opportunities within each session for two major purposes. One, to help students to achieve desired learning, and secondly, to obtain information about a learner's progress towards the learning goals defined by the teacher at the beginning of the session. These learning goals must be communicated to the learner. It is equally crucial that the teacher checks to ensure that the learner not only understands the learning goals but also appreciates the assessment criteria which will be used to assess the work.

The following tasks have to be considered while planning assessment for learning:

- decide what is going to be learned in a particular session
- define the learning goals
- communicate the learning goals to the learners
- compile questions and design tasks to check learner understanding of the learning goals
- explain to the learners the criteria which will be used to assess their work
- decide how feedback is going to be provided
- define how learners will take an active part in the assessment process
- plan opportunities for learners to use the feedback provided on the assessment decision to further progress.

### **Focus of assessment**

The curriculum can be used as the starting point in deciding what to assess, and to focus on why and how students gain their understanding. Assessment for learning requires an ongoing assessment of the curriculum outcomes that comprise the intended learning. These assessments should be designed in such a way that they expose students' thinking and skills concerning the intended learning and the common preconceptions.

### **Use of methods**

Several methods can be used in this approach. Focussed observations, questioning, conversations, quizzes, computer-based assessments, learning logs, or whatever other methods are likely to give information will be useful for planning and teaching. Whenever an assessment is planned, one should think about what information is expected from this attempt and which assessment approach/approaches are best suited for this. These methods need to incorporate a variety of ways for students to demonstrate their learning. For example, designing opportunities to complete tasks in a pictorial form of the writing form, or orally or even through non-formal talks, etc. This is because students may not be able to express their learning in one particular way.

### **Ensuring Quality of assessment**

One can be sure of the quality of assessment for learning when-

It helps to make decisions about students' learning in specific ways. It should help both the teacher and learner, to know, what exactly has been learned and what is yet to be

learned. It should give clues about how to plan to learn further. This specificity will help teachers to give clear feedback for learners so that learners can focus on what to accomplish next and how to accomplish the same.

### **Using Assessment Information /Feedback**

The results of the assessment are most useful to give feedback to students. This is the key to successful assessment for learning. The success of learning to a large extent depends on the quality of feedback. When the feedback is clear, specific, and crisp, students easily plan their further learning sessions and achieve their goals. Feedback need not be given only after the end of the learning session. It can be at any point where teachers feel the need for it. It is the vital link between the teacher's assessment of a student's learning and the action following that assessment. To be successful, feedback needs to be immediate and identify the way forward. It should not simply tell learners whether their answers are right or wrong, or simply provide evaluative feedback in the form of grades and short, non-specific comments of praise or censure. This latter kind of feedback affects students' senses of themselves and tells them how they stand with others, but it offers very little direction for moving forward. Feedback for learning, on the other hand, is descriptive and specific. Descriptive feedback makes explicit connections between students' thinking and the learning that is expected. It addresses faulty interpretations and a lack of understanding. It provides the student with manageable next steps and an example of what good work looks like. Feedback for learning provides evidence that confirms or challenges an idea that a student hold. It gives recognition for achievement and growth, and it includes clear directions for improvement. It encourages students to think about and respond to, the suggestions. And it focuses on both quality and learning.

### **Reporting**

Reporting in assessment for learning is based on open, frequent, and ongoing communication with students and their parents about progress in learning, methods that the teacher is using to ensure ongoing progress, and ways that students, teachers, and parents might help move learning forward with minimal misunderstanding and confusion for the student. The reports might focus on a single outcome but more often on a series, or cluster, of outcomes. Reporting should take into account what learning is expected, provide good models of what students can achieve, and identify strategies for supporting students.

### **Check Your Progress - 1**

**Put a tick mark (✓) against those statements that represent the characteristics of 'assessment for learning'**

1. Does not stop at a point but continues till the learning task is completed
2. Contributes and encourages learning
3. Is an individualistic task completed by a student.
4. Believes in using a single method.
5. The results reveal only the limitations of learning
6. Results of assessment are further utilised for improving learning
7. Learning goals are not intimated to the learners
8. No grades of scores are assigned
9. Record is maintained only in anecdotal form
10. Based on the assumption that assessment helps to learn better.
11. Involves formal and informal assessment activities as part of learning and assessment
12. Goals of learning are very clear and specific
13. Encourages self-assessment as well as peer assessment

14. The results of the assessment are obvious for both learners and teachers

### **1.4.3.2. Assessment as Learning**

#### **Meaning and Nature of ‘Assessment as Learning’**

Assessment as learning focuses on students and emphasizes assessment as a process of metacognition (knowledge of one’s thought processes) for students. Assessment as learning emerges from the idea that learning is not just a matter of transferring ideas from someone knowledgeable to someone who is not, but is an active process of cognitive restructuring that occurs when individuals interact with new ideas. Within this view of learning, students are the critical connectors between assessment and learning. For students to be actively engaged in creating their understanding, they must learn to be critical assessors who make sense of information, relate it to prior knowledge, and use it for new learning.

Assessment as learning is when learners are asked to assess their performance on their own, they use various assessment techniques and strategies to assess themselves. This practice helps learners to identify their knowledge gaps, adopt appropriate learning strategies, and use assessment as a tool for new learning.

This is the regulatory process in metacognition; that is, students, become adept at personally monitoring what they are learning, and use what they discover from the monitoring to make adjustments, adaptations, and even major changes in their thinking. Assessment as learning is based on research about how learning happens and is characterized by students reflecting on their learning and making adjustments so that they achieve a deeper understanding.

The ultimate goal in the assessment as learning is for students to acquire the skills and the habits of mind to be metacognitively aware of increasing independence. Assessment as learning focuses on the explicit fostering of students’ capacity over time to be their own best assessors, but teachers need to start by presenting and modeling external, structured opportunities for students to assess themselves.

In assessment as learning, the role of the student is not only seen as a contributor to the assessment and learning process, but also as the critical connector between them. The student is the link. Students, as active, engaged, and critical assessors, can make sense of information, relate it to prior knowledge, and master the skills involved. This is the regulatory process in metacognition. It occurs when students personally monitor what they are learning and use the feedback from this monitoring to make adjustments, adaptations, and even major changes in what they understand. Assessment as Learning is the ultimate goal, where students are their own best assessors.

At some point, students will need to be self-motivating and able to bring their talents and knowledge to bear on the decisions and problems that make up their lives. They can’t just wait for the teacher to tell them whether or not the answer is “right.” Effective assessment empowers students to ask reflective questions and consider a range of strategies for learning and acting. Over time, students move forward in their learning when they can use personal knowledge to construct meaning, have skills of self-monitoring to realize that they don’t understand something, and have ways of deciding what to do next.

Assessment as learning is a process of developing and supporting metacognition for students. Assessment as learning focuses on the role of the student as the critical connector between assessment and learning. When students are active, engaged, and critical assessors, they make sense of information, relate it to prior knowledge, and use it for new learning. This is the regulatory process in metacognition. It occurs when students monitor their learning and use the feedback from this monitoring to make adjustments, adaptations, and even major changes in what they understand.

### **Teachers' Role in Assessment as Learning**

The role of the teacher here is different from the context of traditional assessment contexts. The teacher needs to shift from a presenter of content to a practitioner of more productive pedagogy. Here one can witness a shared responsibility of teachers and students for learning. The idea of the Zone of Proximal Development suggested by Vygotsky is more applicable here. He proposes that teaching aims to encourage the learner to be more independent from the teacher. This approach implies that the teacher needs to set procedures of learning that allow the learner to take up independently in the course of learning. In this approach, the students are encouraged to use assessment information to set their learning goals, make learning decisions related to their improvement. The students assess the status of their work and identify where they have to reach. They take the feedback from peers and students and understands the demands of further learning. The teacher helps to make future learning plans

One should not think that the role of the teacher in this approach is less important because students take responsibility for their learning. The teachers have an equal and greater responsibility here, more than in learning for assessment contexts. The teacher is supposed to design instruction and assessment that allows all students to think about, and monitor, their learning. Assessment as learning is based on the conviction that students are capable of becoming adaptable, flexible, and independent in their learning and decision-making. When teachers involve students and promote their independence, they are giving them the tools to undertake their learning wisely and well. To become independent learners, students must develop sophisticated combinations of skills, attitudes, and dispositions. Self-monitoring and evaluation are complex and difficult skills that do not develop quickly or spontaneously. Like any other complex set of skills, becoming metacognitively aware requires modeling and teaching on the part of the teacher, and practice on the part of the student.

The teacher's role in promoting the development of independent learners through assessment as learning is to

- model and teach the skills of self-assessment.
- guide students in setting goals, and monitoring their progress toward them.
- provide exemplars and models of good practice and quality work that reflect curriculum outcomes.
- work with students to develop clear criteria of good practice.
- guide students in developing internal feedback or self-monitoring mechanisms to validate and question their thinking, and to become comfortable with the ambiguity and uncertainty that is inevitable in learning anything new.
- provide regular and challenging opportunities to practice, so that students can become confident, competent self-assessors.
- monitor students' metacognitive processes as well as their learning, and provide descriptive feedback.

- create an environment where it is safe for students to take chances and where support is readily available. Students need to experience continuous and genuine success.

This does not mean that students should not experience failure but, rather, that they need to become comfortable with identifying different perspectives and challenge these perspectives; they need to learn to look for misconceptions and inaccuracies and work with them toward a more complete and coherent understanding. Students (both those who have been successful - in a system that rewards safe answers—and those who are accustomed to failure) are often unwilling to confront challenges and take the risks associated with making their thinking visible. Teachers have the responsibility of creating environments in which students can become confident, competent self-assessors by providing emotional security and genuine opportunities for involvement, independence, and responsibility.

### **Planning Procedure**

To know what steps to take to support students' independence in learning, teachers use assessment as learning to obtain rich and detailed information about how students are progressing in developing the habits of mind and skills to monitor, challenge, and adjust their learning. For their part, students learn to monitor and challenge their understanding, predict the outcomes of their current level of understanding, make reasoned decisions about their progress and difficulties, decide what else they need to know, organize and reorganize ideas, check for consistency between different pieces of information, draw analogies that help them advance their understanding, and set personal goals.

Let us see how students plan the assessment procedure:

- Students identify and clarify the standards to be achieved including standards required by the teacher;
- Clarify what high standards mean in behavioural terms;
- Establish goals for assignments;
- Choose strategies deemed appropriate to go through and complete the assignments;
- Record entire progress, makes note of any issues arising and have been resolved;
- Write Self-reflections;
- Write peer reviews;
- Prepare questions based on self, peer, and tutor evaluations before communication;
- Communicate with a teacher directly or through self-reflections after the completion of the learning exercise;
- Modify learning strategies based on results.

### **Focus of assessment**

In assessment as learning, teachers are interested in

- how students understand concepts.
- how they use metacognitive analysis to make adjustments to their understanding.
- observe students' goal-setting process and their thinking about their learning.
- pay attention to the strategies students use to support or challenge, adjust, and advance their learning.

### **Use of Methods**

In this approach, multi-faceted and various types of assessments need to be used. These are the opportunities provided for students to exhibit their learning. The assessment methods can either be selected from ready-made lists or can be adapted or designed according to the needs of students and situations. Teachers need to orient students about how to use

these approaches for self-assessment. The assessment methods should have scope for reflection and review. exemplars, criteria, rubrics, frameworks, and checklists, etc may help in this situation.

### **Ensuring Quality of assessment**

Quality in assessment can be ensured if during the process of assessment

- students are engaged in considering and challenging their thinking;
- students made proper judgments about their understanding;
- used appropriate tools and accumulated evidence
- made reasonable decisions based on the evidence collected
- presented clearly what they have understood and what requires more clarity
- made proper decisions about what they need to do to deepen their understanding.

### **Using Assessment Information / Feedback**

Students use assessment as learning to gain knowledge about their progress, show milestones of success that are worthy of celebration, adjust their goals, make choices about what they need to do next to move their learning forward, and advocate for themselves.

Feedback and support, for example: Try using smaller tasks to make timely feedback possible. Feedback can be informal or formal; Give constructive feedback that helps students understand what and how to advance; Through dialogue, help facilitate students planning of strategies to improve learning;

Acknowledge students' achievements. Feedback is particularly important in the assessment of learning. Learning is enhanced when students see the effects of what they have tried and can envision alternative strategies to understand the material. When feedback enhances understanding and provides models for independent learning, students tend to be diligent and more engaged. Although assessment as learning is designed to develop independent learning, students cannot accomplish it without the guidance and direction that comes from detailed and relevant feedback. Students need feedback to help them develop autonomy and competence. Complex skills, such as monitoring and self-regulation, become routine only when there are constant feedback and practice using the skills. Effective feedback challenges ideas introduce additional information, offers alternative interpretations, and creates conditions for self-reflection and review of ideas. It provides students with information about their performance on a task, and how they could come to conclusions on their own.

### **Reporting**

Reporting in the assessment as learning is the responsibility of students, who must learn to articulate and defend the nature and quality of their learning. When students reflect on their learning and must communicate it to others, they are intensifying their understanding of a topic, their learning strengths, and the areas in which they need to develop further. Student-led parent-teacher conferences have become a popular reporting forum that fits with assessment as learning. However, the success of these conferences depends on how well they are structured and how well the students prepare. The students need to have been deeply involved in the assessment as learning throughout the instructional process and be able to provide their parents with evidence of their learning. The evidence needs to include an analysis of their learning progress and what they need to do to move it forward. Recordkeeping in the assessment as Learning is a personal affair. Students and teachers decide (often together) about the important evidence of learning and how it should be

organized and kept. Students routinely reflect on their work and make judgments about how they can capitalise on what they have done already.

Comparison with others is almost irrelevant. Instead, the critical reference points are the student's prior work and the aspirations and targets for continued learning.

### **Check Your Progress - 2**

**Put a tick mark (✓) against those statements that represent the characteristics of 'assessment as learning'**

1. This approach emphasizes assessment as a process of metacognition
2. Believes in the idea that learning is just a matter of transferring ideas from someone who more knowledgeable to less knowledgeable.
3. Students are the critical connectors between assessment and learning
4. Students discover major changes in their thinking.
5. The ultimate goal is for students to acquire the skills and the habits of mind
6. Students are active, engaged, and critical assessors.
7. The role of students, as well as teachers, is the same
8. The teacher identifies assessment roles
9. The students get feedback from teachers

### **1.4.3.3. Assessment of Learning**

#### **1. Meaning and Nature of 'Assessment of Learning'**

Assessment of learning refers to strategies designed to confirm what students know, demonstrate whether or not they have met curriculum outcomes or the goals of their individualized programs, or to certify proficiency and make decisions about students' future programs or placements. It is designed to provide evidence of achievement to parents, other educators, the students themselves, and sometimes to outside groups (e.g., employers, other educational institutions). Assessment of learning results in statements or symbols about how well students are learning.

Assessment of learning: It focuses on learners' achievement against some predefined outcomes and standards. Sometimes, it is referred to as summative assessment. Generally, teachers undertake this type of assessment at the end of a Unit or term or semester to grade or rank the learners.

We have seen that the objective of assessment from behaviourist perspective is to assess the extent of learning that has taken place at a particular point of time, for instance, after teaching a lesson or unit, you might be interested to know the level of achievement of students on the content you have taught and therefore you give them some test for it. The predominant objective of assessment in schools is an assessment of learning. You might be using various forms of tests to assess the quantity and accuracy of learners' work represented through grades or marks. This type of assessment tells you as to how well the students are performing in comparison to certain criteria such as 'high and low achievement' or 'pass or fail', etc. School report cards of students provide feedback to parents about the progress of their wards as well.

Similarly, at the larger scale, State level or National level surveys are conducted to assess the performance of students at different levels. The focus of such an assessment is to rank order students in groups in terms of their position within the group such as first or second, and so on. Although such type of assessment has a long historical tradition and is

widely accepted by schools and parents alike, it has several limitations and doubts have been raised about the reliability and validity of such type of assessment procedures. Assessment from this perspective has been considered as a means to achieve the goal of mastery learning. This approach led to identifying minimum levels of learning (MLL). The National Policy on Education (NPE) 1986, revised in 1992 and its Programme of Action (POA1992) stressed minimum levels of learning (MLL) which subsequently led to stage-wise and subject-wise development of MLL by the NCERT. Traditionally assessment of learning has been carried out in our schools with the help of numerical assessment (0-100) or grades (A-E), etc. and is summative in nature reflecting how much a learner has achieved at the end of learning any concept and unit. Assessment of learning therefore is summative and linear which is carried out to ascertain what the learner has learned after teaching is over. It is the end product of learning

Assessment of learning represents the assessment conception of measurement. Judgments of performances are taken at the end of learning. The predominant kind of assessment in schools is the Assessment of Learning. Its purpose is summative, intended to certify learning. Assessment of Learning in classrooms takes the form of tests or exams that include questions drawn from the material studied during that time. An Assessment of Learning, the results are expressed symbolically, generally as marks across several content areas to report to parents.

This is the kind of assessment that still dominates most classroom assessment activities, especially in secondary schools, with teachers firmly in charge of both creating and marking the test. Teachers use the tests to assess the quantity and accuracy of student work, and the bulk of teacher effort in assessment is taken up in marking and grading. A strong emphasis is placed on comparing students, and feedback to students comes in the form of marks or grades with little direction or advice for improvement. These kinds of testing events indicate which students are doing well and which ones are doing poorly. Typically, they don't give much indication of mastery of particular ideas or concepts because the test content is generally too limited and the scoring is too simplistic to represent the broad range of skills and knowledge that has been covered.

Assessment of Learning and grading has a long history in education. They have been widely accepted by parents and the public. If they have served us so well, why would we worry about a process that works? Without moving too far away from my primary purpose, I'd like to highlight a few of the issues that are currently contentious about what we have always done. Although the public has been largely supportive of grading in schools, skepticism is increasing about its fairness and even its accuracy.

### **Teachers' Role**

The consequences of assessment of learning are often far-reaching. They affect students seriously. Teachers have the responsibility of reporting student learning accurately and fairly, based on evidence obtained from a variety of contexts and applications.

Effective assessment of learning requires that teachers provide

- a rationale for undertaking a particular assessment of learning at a particular point in time
- clear descriptions of the intended learning
- processes that make it possible for students to demonstrate their competence and skill
- a range of alternative mechanisms for assessing the same outcomes
- public and defensible reference points for making judgments

- transparent approaches to interpretation
- descriptions of the assessment process
- strategies for remedy in the event of a disagreement about the decisions

With the help of their teachers, students can look forward to the assessment of learning tasks as occasions to show their competence, as well as the depth and breadth of their learning.

### **Planning Procedure**

The purpose of the assessment of learning is to measure, certify, and report the level of students' learning, so that reasonable decisions can be made about students. There are many potential users of the information:

- teachers (who can use the information to communicate with parents about their children's proficiency and progress).
- parents and students (who can use the results for making educational and vocational decisions).
- potential employers and post-secondary institutions (who can use the information to make decisions about hiring or acceptance).
- principals, district or divisional administrators, and teachers (who can use the information to review and revise programming).

### **Focus of assessment**

Assessment of learning requires the collection and interpretation of information about students' accomplishments in important curricular areas, in ways that represent the nature and complexity of the intended learning. Genuine learning for understanding is much more than just recognition or recall of facts or algorithms. Therefore, assessment of learning tasks needs to enable students to show the complexity of their understanding. Students need to be able to apply key concepts, knowledge, skills, and attitudes in ways that are authentic and consistent with current thinking in the knowledge domain.

### **Use of Methods**

In the assessment of learning, the methods chosen need to address the intended curriculum outcomes and the continuum of learning that is required to reach the outcomes. The methods must allow all students to show their understanding and produce sufficient information to support credible and defensible statements about the nature and quality of their learning. This helps others to use the results in appropriate ways. Assessment of learning methods includes not only tests and examinations, but also a rich variety of products and demonstrations of learning—portfolios, exhibitions, performances, presentations, simulations, multimedia projects, and a variety of other written, oral, and visual methods.

### **Ensuring Quality of Assessment**

Assessment of learning needs to be very carefully constructed so that the information upon which decisions are made is of the highest quality. Assessment of learning is designed to be summative and to produce defensible and accurate descriptions of student competence about defined outcomes and, occasionally, about other students' assessment results. Certification of students' proficiency should be based on a rigorous, reliable, valid, and equitable process of assessment and evaluation.

### **Using Assessment Information /Feedback**

Because the assessment of learning comes most often at the end of a unit or learning cycle, feedback to students has a less obvious effect on student learning than assessment for learning and assessment as learning. Nevertheless, students do rely on their marks and teachers' comments as indicators of their level of success, and to make decisions about their future learning endeavors.

### **Reporting**

There are many possible approaches to reporting student proficiency. Reporting assessment of learning needs to be appropriate for the audiences for whom it is intended, and should provide all of the information necessary for them to make reasoned decisions. Regardless of the form of the reporting, however, it should be honest, fair, and provide sufficient detail and contextual information so that it can be clearly understood. Traditional reporting, which relies only on a student's average score, provides little information about that student's skill development or knowledge. One alternate mechanism, which recognizes many forms of success and provides a profile of a student's level of performance on an emergent-proficient continuum, is the parent student-teacher conference. This forum provides parents with a great deal of information and reinforces students' responsibility for their learning.

### **Record-Keeping**

Whichever approaches teachers to choose for assessment of learning, it is their records that provide details about the quality of the measurement. Detailed records of the various components of the assessment of learning are essential, with a description of what each component measures, with what accuracy and against what criteria and reference points, and should include supporting evidence related to the outcomes as justification. When teachers keep records that are detailed and descriptive, they are in an excellent position to provide meaningful reports to parents and others.

### **Check Your Progress 3**

**Put a tick mark (✓) against those statements that represent the characteristics of 'assessment of learning'**

1. Represents the assessment conception of measurement.
2. Judgments of performances are taken at different stages of learning.
3. Its purpose is summative
4. The results are expressed descriptively
5. Teachers use tests and examinations during the assessment process.
6. There is no scope for comparison
7. These kinds of testing events indicate which students are doing well

#### **1.4.3.4. Difference among assessment for learning, assessment as learning, and assessment of learning**

All three approaches contribute to student learning but in vastly different ways. The following table gives a summary of the salient features of each approach.

### Features of Assessment for, as and of Learning

|                                  | <b>Assessment for Learning</b>   | <b>Assessment as Learning</b>  | <b>Assessment of Learning</b>   |
|----------------------------------|--|--|---|
| <b>Purpose</b>                   | Information for teachers' instructional decisions  | Self-monitoring and self-correction or adjustment  | Judgments about placement, promotion, credentials, etc.   |
| <b>Reference Points</b>          | External standards or expectations   | Personal goals and external standards  | Other students  |
| <b>Key Assessor</b>              | Teacher  | Student  | Teacher   |
| <b>Nature of assessment</b>      | Formative  | Summative  | Formative   |
| <b>Methods used</b>              | A range of methods in different modes that make students' skills and understanding visible   | A range of methods of different modes that elicits students; learning and metacognitive processes.   | Range of methods in different modes that assess both product and process  |
| <b>Focus</b>                     | Each student's progress and learning needs in relation to the curricular outcomes  | Each student's thinking about his or her learning, strategies used to support learning, and mechanisms used to advance with learning   | The extent to which students can apply the key concepts, knowledge, skills, attitudes related to the curriculum outcomes.   |
| <b>Ascertaining quality</b>      | Accuracy and consistency of observations and interpretations of student learning; Clear learning expectations; Accurate, detailed notes for descriptive feedback to each student.            | Accuracy and consistency of students' self-reflection, self-monitoring, and self-adjustment. Engagement of the student in considering and challenging one's own thinking; Students record on self-learning | Accuracy and consistency of fairness of judgement based on high quality information; Clear, detailed learning expectations, fair and accurate summative reporting   |
| <b>Ways of using information</b> | Provide each student with accurate descriptive feedback to further learning; Differentiate instruction by continually checking where each student is in relation to the curriculum outcomes. | Provide each student with accurate descriptive feedback that will help them to independent learning habits; Have each student focus on the task  | Indicate each student's level of learning; Provide foundation for discussions on placement or promotion; Report, fair, accurate and detailed information that can be used to decide the next steps in a student's learning. |

|  |   |  |  |
|--|---|--|--|
|  | Provide parents or guardians with descriptive feedback about student learning and ideas for support.  | and his or her learning  |  |
| <b>Setting goals of assessment</b>           | Goals are clearly set by teachers   | Goals are set by students  | Goals are set by teachers                |
| <b>Communication of goals</b>                | Teachers communicate the goals to students  | Goals are derived by students with the guidance of teacher   | Goals are not communicated               |
| <b>Decision on the methods of assessment</b> | Teacher decides   | Students decide  | Teacher decides                          |
| <b>Example</b>                               | Student: we were supposed to learn 5 new words (to write with proper spelling, to pronounce properly and to use the word in proper context). I learnt three words in all categories. I have to learn two more tomorrow. | I had planned to learn 5 new words (to write with proper spelling, to pronounce properly and to use the word in proper context). I learnt four words correctly. I must find out why I am not getting the fifth one and do some dictionary exercises to learn that. | I have got 6/10 marks in vocabulary test |

Both ‘assessment for learning’ and ‘assessment as learning’ take the learning process as being significant and emphasise the roles of assessment in supporting learning. What makes ‘assessment as learning’ different from ‘assessment for learning’ is that ‘assessment as learning’ places special attention on the role of the learner and promotes active engagement of learners while ‘assessment for learning’ places a stronger emphasis on the role of the teacher plays in promoting learning. ‘Assessment as learning’ could be said to be an “assessment as learning to learn paradigm” while ‘assessment for learning’ an “assessment in support of learning paradigm” (Berry, 2008a).

Earl (2003) says that ‘assessment for learning’ can go a long way in enhancing student learning. By introducing the notion of ‘assessment as learning’, the intention is to extend the role of ‘assessment for learning’ by emphasising the role of the student, not only as a contributor to the assessment and learning process but also as the critical connector between them. The student is thus the link between teaching and learning. Being an active, engaged, and critical assessor, the student makes sense of information, relates it to prior knowledge, and deliberates the strategies and skills involved in taking their learning forward. S/he self-analysis, self-references, self-evaluates, and self-corrects in the learning process. These and other metacognitive strategies help him/her raise their awareness of what s/he is

doing so that s/he can plan what s/he needs to do to move to learn forward (Berry & Adamson, 2011). Students' roles may also include working out what their teachers expect of them and doing it well. Brookhart (2001) calls this knowing the art of 'studenting'.

All three assessment approaches have their place.

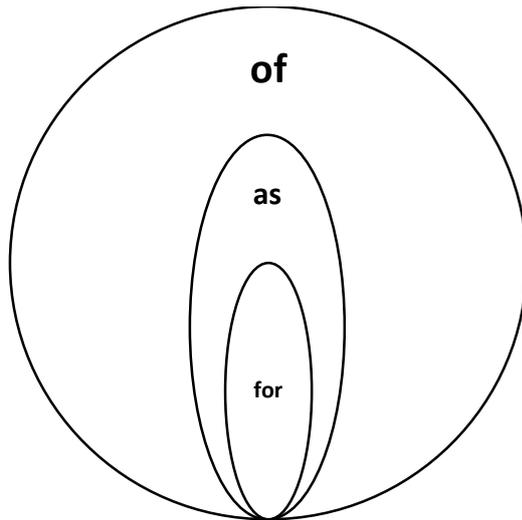
The trick is to get the balance right.

At the current juncture, almost all classroom assessment in a traditional environment is summative 'Assessment of Learning', focused on measuring learning after the fact and used for categorising students and reporting these judgments to others. A few teachers use Assessment for Learning by building in diagnostic processors – formative assessment and feedback at stages in the program – and giving students second chances to improve their marks.

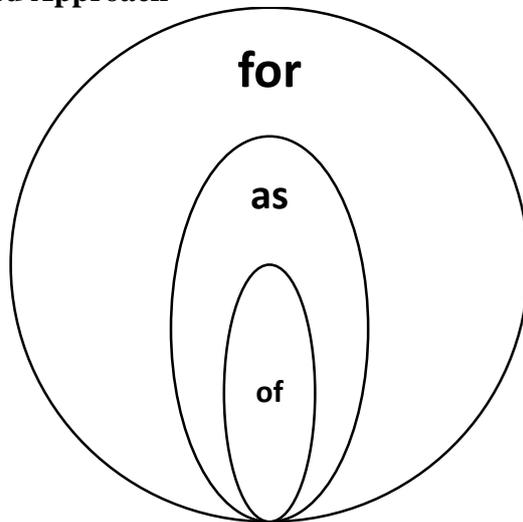
Systematic Assessment as Learning is almost non-existent. There are times when information about students' achievements of key outcomes and the degree to which they compare with others is important and the approach should be the assessment of Learning. The issue is whether schools should be utilising Assessment of Learning over and over again to such an extent that it leaves no place for other approaches to assessment.

Assessment for learning, assessment as learning, and assessment of learning all serve valuable, and different, purposes. It is not always easy, however, getting the balance right. If we want to enhance learning for all students, the role of assessment for learning and assessment as learning takes on a much higher profile than the assessment of learning. Teachers traditionally have also been using assessment for learning when they built-in diagnostic processes, formative assessment, and feedback at various stages in the teaching and learning process, though it was often informal and implicit. Systematic assessment as learning - where students become critical analysts of their learning - was rare. Although some teachers have incorporated self-assessment into their programs, few have systematically or explicitly used assessments to develop students' capacity to evaluate and adapt their learning. The following diagrams represent the traditional and currently desired patterns of assessment. Observe the proportion of 'assessment for learning', 'assessment as learning', and 'assessment of learning' in these approaches.

### **Traditional Approach of Assessment**



**Currently Desired Approach**



The first figure shows the traditional relationship of the three approaches to one another, assessment of learning being the predominant focus. The second figure suggests a reconfiguration of the balance among the three approaches, one that emphasizes assessment as learning, and assessment for learning. Assessment of learning has an important role to play but is used only when summative judgments are required.

It is a purpose that dictates how assessment is constructed and used. If the purpose is enhancing learning, the assessment needs to allow students to make their learning apparent without anxiety or censure. Assessment for learning is designed to give teachers information to modify and differentiate teaching and learning activities. It acknowledges that individual students learn in idiosyncratic ways, but it also recognizes that there are predictable patterns and pathways that many students follow. It requires careful design on the part of teachers so that they use the resulting information to determine not only what students know, but also to gain insights into how, when, and whether students apply what they know. Teachers can also use this information to streamline and target instruction and resources and to provide feedback to students to help them advance their learning. Assessment as learning is a process of developing and supporting metacognition for students. Assessment as learning focuses on the role of the student as the critical connector between assessment and learning. When

students are active, engaged, and critical assessors, they make sense of information, relate it to prior knowledge, and use it for new learning. This is the regulatory process in metacognition. It occurs when students monitor their learning and use the feedback from this monitoring to make adjustments, adaptations, and even major changes in what they understand.

It is very difficult, and sometimes impossible, to serve three different assessment purposes at the same time. Educators need to understand the three assessment purposes, recognize the need to balance among them, know which one they are using and why, and use them all wisely.

#### **Check Your Progress - 4**

Identify the statements related to ‘assessment for learning’, ‘assessment as learning’, and ‘assessment of learning’

Student 1: I got a ‘c’ grade in mathematics

Student 2: I learned the 1st and 3rd problems but yet to learn the type of problem 2. I have to work with my teacher tomorrow

Student 3: I had decided to learn how to write paragraphs. I learned three out of five attributes, and I have proper plans to learn the rest of the two attributes of paragraph writing.

#### **1.4.4. Let us Summarise**

- 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 go there. Assessment for learning is also known as a formative assessment
- Assessment as learning focuses on students and emphasizes assessment as a process of metacognition (knowledge of one’s thought processes) for students. Assessment as learning emerges from the idea that learning is not just a matter of transferring ideas from someone knowledgeable to someone who is not, but is an active process of cognitive restructuring that occurs when individuals interact with new ideas.
- Assessment of learning refers to strategies designed to confirm what students know, demonstrate whether or not they have met curriculum outcomes or the goals of their individualized programs, or to certify proficiency and make decisions about students’ future programs or placements. It is designed to provide evidence of achievement to parents, other educators, the students themselves, and sometimes to outside groups (e.g., employers, other educational institutions). Assessment of learning results in statements or symbols about how well students are learning.

#### **1.4.5. Answers to ‘Check Your Progress - 1, 2, 3, and 4’**

##### **Check Your Progress - 1**

3,4,5,7,9

##### **Check Your Progress - 2**

3,7,8,9,

##### **Check Your Progress - 3**

2,4,6,

##### **Check Your Progress - 4**

Student – 1 ‘assessment of learning’

Student 2- 'assessment for learning'

Student 3 - 'assessment as learning'

#### 1.4.6. Unit end Exercises

1. Explain the concept of 'assessment for learning' and list the implications for assessment.
2. Explain the concept of 'assessment as learning' and list the implications for assessment.
3. Explain the concept of 'assessment of learning' and list the implications for assessment.

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## **Block 1 : Assessment and Evaluation-An Overview**

### **Unit 5 : Critical Review of Current Evaluation Practices and their Assumptions about Learning and Development**

#### **Unit Structure**

- 1.5.1. Learning Objectives
- 1.5.2. Introduction
- 1.5.3. Learning Points and Learning Activities
  - 1.5.3.1. Critical review of current evaluation practices and their assumptions about learning and development  
Check Your Progress - 1
  - 1.5.3.2. Implications of the Present Status of Assessment  
Check Your Progress - 2
- 1.5.4. Let us Summarise
- 1.5.5. Answers to 'Check Your Progress - 1, 2, and 3'
- 1.5.6. Unit end Exercises
- 1.5.7. References

#### **1.5.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Analyse the current evaluation practices;
- Identify the limitations and merits of the current evaluation practices; and
- Identify the assumptions of current evaluation practices about learning and development.

#### **1.5.2. Introduction**

Assessment and evaluation have a long history throughout the educational process. The practices of assessment and evaluation are supposed to be in tune with the theories of learning that are believed to be true and accepted by the educational community. So far, the assessment practices under behaviourism have been followed. In recent years, the educational community has identified the limitations of behaviourism, as new theories on learning have been evolved. The implications of these theories have been accepted for teaching, at least theoretically. The teaching process has been shifted from behaviouristic theory to constructivist and cognitive constructivist theories. This has necessitated us to perceive assessment and evaluation perspectives also from the point of view of these theories. The assessment and evaluation processes of behaviourism, perceive evaluation in the summative form, and do not contribute for the learner to continue his/her learning. The new perspectives perceive learning and evaluation as associated activities and assessment and evaluation complement and contribute to learning. Hence, let us understand the limitations of the present evaluation system and see what shifts are required in the process of assessment and evaluation.

#### **1.5.3. Learning Points and Learning Activities**

##### **1.5.3.1. Critical review of current evaluation practices and their assumptions about learning and development**

Throughout most of the 20th century, classroom assessment was considered a mechanism for providing an index of learning, and it followed a predictable pattern: teachers taught, tested the students' knowledge of the material, made judgments about students' achievement based on the testing, and then moved on to the next unit of work.

In our classroom, the usual method of evaluation is the paper-pencil or written tests. We call these tests by different names such as unit tests, mid-term examinations, preparatory examinations, annual examinations, etc.

Paradoxically, these have only different names but in reality, they all have essentially similar characteristics. We award numerical scores or grades to the students and rank them based on these scores.

The most common kinds of educational tests do a reasonable job with certain functions of testing, such as measuring knowledge of basic facts and procedures and producing overall estimates of proficiency for an area of the curriculum. But both their strengths and limitations are a product of their adherence to theories of learning and measurement that fail to capture the breadth and richness of knowledge and cognition. The limitations of these theories also compromise the usefulness of the assessments. The growing reliance on tests for making important decisions and for improving educational outcomes has called attention to some of their more serious limitations. One set of concerns relates to whether the most widely used assessments effectively capture the kinds of complex knowledge and skills that are emphasized in contemporary standards and deemed essential for success.

Traditional testing presents abstract situations, removed from the actual contexts in which people typically use the knowledge being tested. From a situative perspective, there is no reason to expect that people's performance in the abstract testing situation adequately reflects how well they would participate in organized, cumulative activities that may hold greater meaning for them. Whereas the differential and behaviourist approaches focus on how much knowledge someone has. The cognitive theory also emphasizes what type of knowledge someone has. An important purpose of assessment is not only to determine what people know, but also to assess how, when, and whether they use what they know. This information is difficult to capture in traditional tests, which typically focus on how many items examinees answer correctly or incorrectly, with no information being provided about how they derive those answers or how well they understand the underlying concepts. The current methods of recording learners' performance and reporting credit do not provide "meaningful feedback" about learner performance. Assessment of learning can detract from effective classroom practice and prevent feeding back assessment decisions to learners on their performance with the view to improving their work.

The present system of evaluation at the school stage suffers from several imperfections. The first and foremost shortcoming of the evaluation system is that it focuses only on cognitive learning outcomes and completely ignores the non-cognitive aspects which are a vital component of human personality. Even in cognitive areas, it lays too much emphasis on memorisation and little on abilities and skills that require higher mental operations like problem-solving, creative thinking, summarising, inferring, arguing, etc.

Examinations in their present form are not the real measure of students' potential because they cover only a small fraction of the course content that the students strive to learn over a period of one year. Nor do they provide for the application of multiple techniques of evaluation like oral technique, observations, projects, assignments, etc. as they resort only to the use of written tests.

As identified by experts in the field, traditional tests do not focus on many aspects of cognition that research indicates are important, and they are not structured to capture critical differences in students' levels of understanding. For example, important aspects of learning not adequately tapped by current assessments include students' organization of knowledge, problem representations, use of strategies, self-monitoring skills, and individual contributions to group problem-solving.

The limits on the kinds of competencies currently being assessed also raise questions about the validity of the inferences one can draw from the results. If scores go up on a test that measures a relatively narrow range of knowledge and skills, does that mean student learning has improved or has instruction simply adapted to a constrained set of outcomes?

A second issue concerns the usefulness of current assessments for improving teaching and learning - the ultimate goal of education reforms. On the whole, most current large-scale tests provide very limited information that teachers and educational administrators can use to identify why students do not perform well or to modify the conditions of instruction in ways likely to improve student achievement. They do not show whether a student is advancing toward competence or is stuck at a partial understanding of a topic that could seriously impede future learning. Indeed, a student can answer certain types of test questions correctly and still lack the most basic understanding of the situation being tested, as a teacher would quickly learn by asking the student to explain the answer. In short, many current assessments do not offer strong clues as to the types of educational interventions that would improve learners' performance, or even provide information on precisely where the students' strengths and weaknesses lie.

The current assessments are static. Most assessments provide the data of achievement at particular points in time, but they do not capture the progression of students' concepts skills, and attitudes. The limitations of the present evaluation system can be summarised as follows:

The results of the assessment are declared in terms of raw marks which does not mean much either to the teacher or student. It is limited to testing mostly the rote memorisation. It gives us only quantitative scores or achievement levels that may not be reflective of the actual learning that has taken place. They are quite arbitrary because they do not holistically and objectively evaluate the learner. It does not give results based on which teacher and students can draw any reliable concrete conclusions. The results are not highly scientific and valid. Poor performance and low scores are often interpreted as 'student failure'. Repeated branding of students as 'failed' may even lead to discontinuing education. It does not indicate teacher inadequacies such as faulty teaching strategy or defective assessment methods. It does not help a teacher to reflect upon her/his performance and provides clues and pointers that will help her/him modify existing practices. It may be wrong to presume that higher achievement in a 'test' reflects better learning. The present system is a product-based and hence has no clue to the process of learning, which involves the various skills children may acquire during the learning process. It fails to give a comprehensive picture of students' assessment results. The present system tests only the ability of students to memorise facts and concepts and reproducing them. It is too formal, structured, and causes a great deal of stress to the students, teachers, and parents. It does not consider the fact that all the students in a class do not learn in the same way although the same teacher teaches them at the same time. Students learn at their own pace and in their style, which to a large extent depends on their socio-cultural and intellectual levels. This tests only the information acquired but the mode

and mechanism of assessment remain more or less the same. Is not valid and reliable as it does not test what it requires to test and does not give the same result when assessed by many valuers. It does not discriminate against students appropriately. The student who gets one mark more is considered better than the other and this is not true. It gives less importance to the psychological aspects of the learner. It does not take care of the co-scholastic achievements of students. It assigns grades that are highly suspicious because teachers consider many factors other than academic achievement when they assign grades.

### **Check Your Progress - 1**

Below are given four specific limitations of the present evaluation. Suggest related ways to overcome them.

1. Does not focus on many aspects of cognition that research indicates are important
2. Lack of validity of evaluation processes
3. Not useful for students to learn deeper and further
4. Does not help to identify students' problems

### **1.5.3.2. Implications for the Present Status of Assessment**

More recently, however, the approach to assessment has come into question as societal expectations for schooling have changed, cognitive science has provided new insights into the nature of learning, and the traditional role of assessment in motivating student learning has been challenged.

- In the past, schooling beyond basic skills and knowledge was viewed as required by only a few. But now, high school graduation is considered a necessity for all, and the educational community is being asked to ensure that graduates be proficient in complex critical thinking, problem-solving, and effective communication to meet demanding societal, economic, and technological challenges.
- Learning was long thought to be an accumulation of atomized bits of knowledge that are sequenced, hierarchical, and need to be explicitly taught and reinforced. Learning is now viewed as a process of constructing understanding, during which individuals attempt to connect new information to what they already know so that ideas have some personal coherence. Individuals construct this understanding in many different ways, depending on their interests, experience, and learning styles.
- Educators have traditionally relied on the assessment that compares students with more successful peers as a means to motivate students to learn, but recent research suggests students will likely be motivated and confident learners when they experience progress and achievement, rather than the failure and defeat associated with being compared to more successful peers (Stiggins, 2001). These three changes in societal expectations and knowledge about learning and motivation have strong implications for how teachers teach, what they teach, and especially how they apply classroom assessment practices.

The following specifics need to be considered in this regard:

- Learners should be involved in dialogue about the assessment at all stages of the assessment process.
- There need to be deliberate efforts to ensure a shared understanding of assessment tasks, criteria, and feedback.
- Assessment should be designed to encourage learners' capacity to evaluate their performance.
- Learners need to be invited to examine and develop their views and beliefs about assessment

- There should be opportunities in assessment processes for coaching in and practice of core skills and expectations
- Feedback needs to guide and support future learning
- There should be opportunities for students to demonstrate how they have responded to feedback
- Learners should be given practice in and invited into a dialogue about assessment, conventions, and criteria( that is, develop assessment literacy to empower them to be genuine partners in the assessment process)
- All aspects of course teaching and learning should explicitly include co-construction of learning
- Assessment must be aligned with course learning outcomes and programme goals.
- Assessment needs to be sustainable
- Assessment should focus as much on process as on the product

Characteristics of high-quality formative assessment are not well understood by teachers and We should be aware of the impact that comments, marks and grades can have on learners' confidence and enthusiasm. Comments that focus on the work rather than the person are more constructive for both learning and motivation. There have been tremendous changes over the last 20 years that have impacted the learning process – tools have changed, learners have changed, and as a consequence, teaching methods have also changed. What is more important is that our educators need to create learning experiences that take advantage of the current tools to engage learners in ways that best meet their needs.

### **Check Your Progress - 2**

Fill up the blanks using appropriate words

1. In all stages of assessment process, learners have to be involved in \_\_\_\_\_
  2. There needs to be deliberate efforts to ensure shared understanding of assessment \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_
- 
1. Assessment should be designed so as to encourage learners' capacity to evaluate their own \_\_\_\_\_
- 
1. Learners need to be invited to examine and develop their views and beliefs about \_\_\_\_\_

### **1.5.4. Let us Summarise**

- The most common kinds of educational tests do a reasonable job with certain functions of testing, such as measuring knowledge of basic facts and procedures and producing overall estimates of proficiency for an area of the curriculum. But both their strengths and limitations are a product of their adherence to theories of learning and measurement that fail to capture the breadth and richness of knowledge and cognition.
- The growing reliance on tests for making important decisions and for improving educational outcomes has called attention to some of their more serious limitations.
- Traditional testing presents abstract situations, removed from the actual contexts in which people typically use the knowledge being tested.
- An important purpose of assessment is not only to determine what people know, but also to assess how, when, and whether they use what they know.
- These significant limitations have necessitated a shift in the present assessment and evaluation practices and calls for a more formative type of assessment rather than

summative types. Formative assessments perceive learning as a continuous process and promote further learning.

### **1.5.5. Answer to ‘Check Your Progress - 1 and 2’**

#### **Check Your Progress - 1**

1. Plan to test organization of knowledge, problem representations, use of strategies, self-monitoring skills.
2. The tests should be designed in such a way that it measures what it intends to measure
3. Should follow formative assessment procedures.
4. Use diagnostic procedures.

#### **Check Your Progress - 2**

1. Dialogue, 2. tasks, criteria and feedback 3. performance 4. assessment

### **1.5.6. Unit end Exercises**

Critically review the current evaluation practices and their assumptions about learning and development.

### **1.5.7. References**

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## **Block 1 : Assessment and Evaluation-An Overview**

### **Unit 6 : Clarification of Assessment Concepts: Test, Measurement, Examination, Formative and Summative Evaluation, Continuous and Comprehensive Assessment and Grading**

#### **Unit Structure**

- 1.6.1. Learning Objectives
- 1.6.2. Introduction
- 1.6.3. Learning Points and Learning Activities
  - 1.6.3.1. Clarification of Assessment Concepts: Test, Measurement, and Examination  
Check Your Progress - 1
  - 1.6.3.2. Formative and Summative Evaluation  
Check Your Progress - 2
  - 1.6.3.3. Continuous and Comprehensive Assessment and Grading  
Check Your Progress - 3
- 1.6.4. Let us Summarise
- 1.6.5. Answers to ‘Check your Progress - 1, 2, and 3’
- 1.6.6. Unit end Exercises
- 1.6.7. References

#### **1.6.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Explain the meaning of tests, measurement, and examination;
- Analyse the concepts of summative and formative evaluation;
- Explain the concept of continuous and comprehensive evaluation and grading; and
- Identify the implications and role of each of these concepts in the total assessment process.

#### **1.6.1. Introduction**

As you are engaged in the process of assessment and evaluation you are familiar with several related concepts like the test, examination, measurement, etc. you might have used some of these processes in the course of assessing students. It is very important to understand the meaning of these concepts in-depth and realise their role and implications of these processes in the total assessment system. Hence, let us understand some of these concepts and understand how these processes can be effectively used in the process of assessment of the performance of students in the educational setting.

#### **1.6.2. Test, Measurement, Examination,**

##### **Test**

You might have taken several tests and administered several tests to others. Have you ever thought of the meaning of these tests? Let us understand the meaning and concept of tests.

Experts in the field have defined the term ‘test’ as follows:

“A test is a systematic procedure for comparing the behaviour of two or more persons”- Cronbach

“A test is a systematic procedure for measuring a sample of behaviour”-Fredrick G Brown.

In general usage, a test is an assessment intended to measure a test taker’s knowledge skill, aptitude, etc.

Bean (1953) defined test as “an organized succession of stimuli designed to measure quantitatively or to evaluate qualitatively some mental process, trait or characteristics.”

We can deduct the following characteristics of the test from the above definitions:

- Tests have some organized stimuli (test items) in an organized sequence to test some specific traits/attributes.
- A test can be used as a tool for quantitative measurement as well as qualitative assessment.
- A test is a systematic tool to measure sample behaviour. In practice, a test may be administered orally, on paper, on a computer, or in a confined area that requires a test taker to physically perform a set of skills.
- The basic attribute of a test is an item, which is sometimes referred to as a “question”. Not every item is phrased as a question. It can be in the form of a true/ false statement or a task that must be performed in a performance test. In many formal standardized tests. A test may vary in rigour and requirement. For example, in a closed book test, a test taker is often required to rely upon memory to respond to specific items whereas, in an open book test, a test taker may use one or more supplementary tools such as a reference book or calculator when responding to an item. A test may be administered formally or informally. An example of a formal test is the test given by a teacher after a unit. An example of an informal test is the oral test administered by a mother to her child as a preparation for the school test.
- Tests as tools impart systematic and organized knowledge about the traits of a person or group of persons. They reveal the result as required by the test. Different types of tests are used for measuring different types of characteristics, like intelligence, creativity, competencies in a subject area, etc.

**Classification of tests:** You are familiar with several tests but you may not know which categories do they belong. Let us understand how different tests have been classified in the related literature.

| Basis of Administration   | Nature of Material Presented   | Objectives  | Type of Responses  | Using Language/not using language  | Characteristics   |
|---|--|---|--|--|---|
| <ul style="list-style-type: none"> <li>• Individual</li> <li>• Group</li> </ul> | <ul style="list-style-type: none"> <li>• Verbal</li> <li>• Non-verbal</li> </ul> | <ul style="list-style-type: none"> <li>• Knowledge</li> <li>• Application</li> <li>• Skill</li> </ul> | <ul style="list-style-type: none"> <li>• Essay Type</li> <li>• Objective Type</li> </ul> | <ul style="list-style-type: none"> <li>• Verbal</li> <li>• Non-verbal</li> </ul> | <ul style="list-style-type: none"> <li>• Intelligence Test</li> <li>• Creativity Test</li> <li>• Aptitude Test</li> </ul> |

Based on the administration of the test, tests can be divided into two categories- individual and time while in group tests measure the abilities of many persons at a time. Oral and performance tests are normally administered as individual tests and written tests are administered in a group.

Tests are categorised as verbal and non-verbal tests based on the nature of the material presented to respond. A verbal test is a test in which language is used as a medium by

students to express their answers while in a non-verbal test or non-language test no language is used either by the administrator or by the one who responds to the test. Here both questions and answers are to be presented in the form of non-verbal medium like symbols, pictures, etc. Tests are also classified as comprehension tests, knowledge tests, skill tests, and application tests, etc. This classification is based on objectives.

Based on the formation of tests, tests are categorised as standardized tests and non-standardized tests or teacher made tests. Standardized tests are those in which the selection of questions is based on the item-analysis process and whose reliability, validity, and norms are available. Non-standardization tests are those which are prepared by teachers according to their needs.

Based on responses or answers expected tests are categorised into essay type and objective type tests. In essay type tests students are expected to answer in the form of an essay. There is more freedom for the examinee to answer in this type of test. In objective type tests, the examinee is to respond in the same way as expected by the test. Hence, the score assigned in the objective type will be objective and the score assigned in the essay type will be subjective.

Tests are also categorised as achievement tests, diagnostic tests, intelligence tests, creativity tests, etc based on the characteristic measured. Each test has different objectives. Tests are also categorised as a speed test and power test. In a speed test, the rapidity with which a task is completed is an important factor determining the score on the test. In a power test, the examinee's score depends on how much the examinee can complete and how rapidly he or she can complete will be considered while scoring. In speed tests, the number of questions will be more, and in power tests, the difficulty level of questions will be higher.

## Measurement

Measurement is a process that we are using in our day-to-day living. As teachers, we keep measuring the number of attributes of our children. Try to do the following exercise

### Exercise 1

Observe the following table

| Name of students | Height | Weight |
|------------------|--------|--------|
| Suma             | 3.4 ft | 30 kg  |
| Uma              | 3.2 ft | 32 kg  |
| Kusuma           | 3.3 ft | 33 Kg  |
| Nasima           | 3.1 ft | 38 kg  |

While completing this table you are in the process of measurement. Let us analyse some of the definitions of measurement given by experts

“Measurement is a process of assigning numbers to individuals or their characteristics according to specific rules.” (Eble and Frisbie, 1991, p.25).

Further simplified the term as a process of quantifying the degree to which someone or something possessed a given trait, i.e., quality, characteristics, or features - Gay (1991). Measurement is the assignment of rules according to certain rules (Tyler 1963)

The measurement consists of rules for assigning numbers to objects in such a way to represent quantities of attributes. - Nunally (1970)

Measurement is a quantitative description of one's performance. For example, if you say, Johnson has scored 98 marks in mathematics, his score is the measurement of his performance in mathematics test. In the same way, if you measure Johnson's weight and height in kilograms, you are assigning numerals, for example, 120cm and 40 kg, using some specific rules, for example, height in centimeters and weight in kilograms. This means that the numbers are assigned according to some rules. A number is a kind of numeral which is assigned some quantitative meaning. In the process of measurement, the investigator does not assign numbers of his own choice, but according to certain explicit rules. Usually, such rules are of two types. One type is where the procedure is obvious. For example, in the above illustration, the measurement of height or weight is very clear. But, suppose, we want to measure the introversion or extraversion trait of personality or interest of a person in some aspect, the rules would not be as clear as we see in our example above. For measuring psychological, sociological, and educational attributes the rules are generally vague and less explicit.

Measurement is always concerned with certain attributes or variables or features of an object. It is important to know that these attributes or features of the object are measured, but not the object itself. If we say that Rohan is 4ft tall, we are measuring Rohan's height, but not Rohan himself. When an investigator is measuring an attribute of a person, he is faced with two difficulties. Firstly, he may be asked to measure an attribute the existence of which is doubtful. For example, metacognitive perception. In such a case, measurement is not only difficult but impossible. Secondly, the investigator may be asked to measure attributes that are not unitary but rather a mixture of several attributes. For example, personality, creativity, etc. In such cases, the investigator needs to use sophisticated instruments designed for the purpose

In the process of measurement, numerals are used to represent quantities of attributes. For example, 'Rohan is 4 ft tall' indicates 'how much'. In other words, measurement involves the process of quantification. Quantification indicates how much or to what extent that particular attribute is present in a particular object. Other examples are, Suresh has scored 90 percent in geography. This percentage indicates how much geography knowledge he has gained in geography.

The following characteristics of measurement can be deduced from the above analysis:

- Measurement assigns a numeral to quantify certain aspects of human and non-human beings
- It is a numerical description of objects, traits, attributes, characteristics, or behaviours.
- Measurement is not an end in itself but certainly, it is a means to evaluate the abilities of a person in education and other fields.
- The nature of measurement varies from one attribute to another.

### **Examination**

An examination is a form of test conducted by educational institutions to know how much one has achieved or where one stands in comparison to others. It is a tool used to see how good somebody is at something.

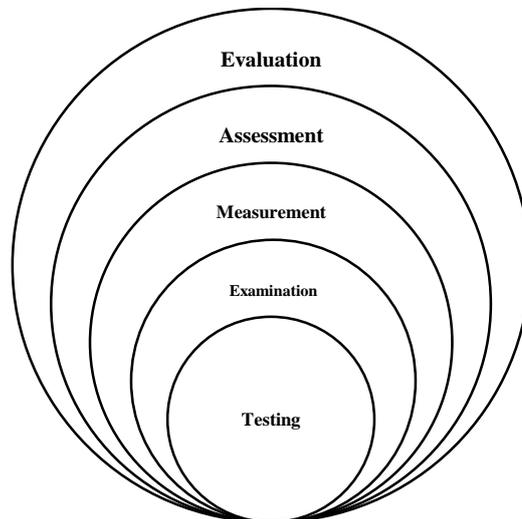
Generally, an examination is conducted for two purposes:

One, to know about how good one is, and other, to know the shortcomings, or, where is one lacking? An example of the first is a semester or annual examination, and an example of the other is a unit test, diagnostic tests, etc. Both have their importance in the educational setting as both are complementary to each other. Examination to a large extent, is pre-determined, where both the teachers and students are familiar with what is tested and how it is tested, i.e, the syllabus on which the examination is based, type of questions, how it is assessed, etc. This helps both the teacher as well as the students. The teachers come to know what part of the lesson the students have learned and what has to be still made clear. The students realise what they have learned and what they are yet to learn. In most cases, the students are awarded degrees/certificates based on their performance in examinations. Different types of questions could be asked in the examination like an essay, short answer, or objective type. The examinations can be either oral or written. Most of the examinations use an objective type of questions to be objective in the evaluation and also to be transparent.

The examination may be classified in various types based on certain criteria, like:

| Mode   | Purpose  | Coverage  | Objective   |
|--|--|---|---|
| <ul style="list-style-type: none"> <li>• Written</li> <li>• Oral</li> <li>• Practical</li> </ul> | <ul style="list-style-type: none"> <li>• Diagnostic</li> <li>• Performance</li> <li>• Promotion</li> </ul> | <ul style="list-style-type: none"> <li>• Annual</li> <li>• Semester</li> <li>• Monthly</li> </ul> | <ul style="list-style-type: none"> <li>• Academic</li> <li>• Professional</li> <li>• Competitive</li> </ul> |

### Difference among the concepts of Test, Examination, measurement, assessment and evaluation



In an educational setting testing, examination, measurement, assessment and evaluation are used to measure to what extent the students have been able to learn in accordance with the expected outcomes. But each concept has its additional attributes which differentiates it from the rest of the concepts. Let us see the difference among these concepts.

Test and examinations examine students' knowledge of a definite amount of intended learning. They measure the level of skill or knowledge that has been already taught or guided. It may be administered orally, on paper, on computer, as per the requirement of the test.

Measurement refers to the observations that are expressed quantitatively. It is precise and objective. It refers to the process by which the attributes or dimensions of some physical objects are determined, by using standard instruments.

Assessment is the process of documenting knowledge, skills, attitudes, beliefs in measurable terms. It is the process of describing, collecting, recording, scoring and interpreting information about learning. It is the process of documenting in measurable terms. It focuses mainly on the individual learner, the learning community, the institution or the educational system as a whole. All tests are assessments, but not all assessments are tests. Test is conducted at the end of a lesson or a unit. Progress is assessed at the end of the school year. Assessment ascertains the behaviour specified in an objective.

Evaluation gives a qualitative description. It is subjective and comprehensive. It is complex and value oriented. It refers to the comparison of data to standard for the purpose of judging worth or quality and research and refers to the use of that data for the purpose of describing, predicting and controlling for better understanding of the phenomena under consideration. It is a continuous process, not a periodic exercise. It answers how good and adds value judgement. It is based on tests, examination, measurement, and assessment. It is concerned about improvement in teaching learning process.

### Check Your Progress - 1

Below are given the names of different tests and the related criterion for classification. Match the tests with their criterion.

|   | <b>Tests</b>                                    | <b>Criterion</b>                      |   |
|---|---|---------------------------------------|---|
| a | Individual and group                            | Objectives                            | 1 |
| b | Intelligence test, creativity test              | Using language and not using language | 2 |
| c | Knowledge test, application test and skill test | Basis of Administration               | 3 |
| d | Verbal and non verbal                           | Characteristics                       | 4 |

### 1.6.3.2. Formative and Summative Evaluation, Continuous and Comprehensive Assessment, and Grading.

The concept of the formative and summative evaluation was given by Michael Scriven in 1967. In teaching, the students are expected to learn the content in small units, and at the end of each unit students are assessed through different techniques and consequently, the merits and limitations in their learning will be identified. Thus, formative evaluation is conducted to evaluate the mastery of students' knowledge, skills, and attitudes related to each unit. Such tests make the teaching-learning process more effective and meaningful.

Let us see some of the definitions of 'formative evaluation' as given by experts in the field:

Formative evaluation is concerned with judgments made during the design or development stage of a programme which is directed towards modifying, forming, or otherwise improving the programme before it is completed”.

“Formative evaluation is conducted to monitor the instructional process, to determine whether learning is taking place as planned.”

“Formative evaluation occurs over a period of time and monitors student progress.”

Formative evaluation is a process of guiding the teaching and learning process. It serves the teacher to modify her teaching to reach the goals successfully and guides the students to know the direction in which they need to continue learning. Thus, it contributes to the effectiveness and efficiency of teaching. The main purpose of formative evaluation is to facilitate learning but not to assign marks or grades for students’ achievement. The main attribute of formative evaluation is that it supplies feedback for teachers and students. It helps students identify their strengths and weaknesses and target areas that need more attention. It helps teachers to identify those issues that need to be clarified for students. The formative evaluation aims at giving continuous feedback for teachers and students. The different types of formative evaluation are tests, quizzes, classwork, games, etc. These are usually testing that is designed to test the intended mastery among students. These are to a large extent teachers made only.

### **Characteristics of formative evaluation**

- It is used for diagnostic purposes.
- Makes provision for objective feedback
- It has scope for student participation and growth.
- It allows students to take responsibility for their learning
- Motivates students for further learning
- Identifies the limitations of teachers and students
- Designed basically on the expected learning outcome
- Students are clear about what they are tested for
- Involves several activities to evaluate students
- Clarifies students about the criteria on which they are assessed
- Offers opportunities to improve their learning
- Very informal process
- There is more scope for students to clarify issues.
- The results are presented in descriptive form
- Evaluation tools are designed to assess learning at different stages.
- There is scope for group work
- Its design is flexible and exploratory
- It is a continuous evaluation
- It focuses on a detailed analysis of instructional material needed for the successful implementation of the programme or effectiveness of the teaching-learning process.

### **Summative Evaluation**

Summative evaluation is usually conducted at the end of a term to find out the extent to which the institutional, including instructional objectives, has been achieved. It is used basically to assign grades or to decide the promotion of students. The techniques and tools of summative evaluation are decided based on institutional and instructional objectives. It gives a sort of feedback for the functioning of the school and its practices.

Let us consider some of the definitions of Summative evaluation as given by experts:

“Summative evaluation describes judgments about the merits of an already completed programme, procedure or product”

“A Summative evaluation can provide evidence that the programme is satisfactory and should be continued to next year’s students or if it is unsatisfactory a new programme is needed”.

“Summative evaluation is done after instruction and measures the extent to which students have attained the desired outcomes.”

The summative evaluation usually sums up how much the student has learned from the course in a particular duration of time. It is assessed based on previously determined criteria for grades. It does not give a picture of the continuous growth of students. It does not demonstrate to students the link between learning and assessment. It may lead to a situation of ‘learn and forget’. There are chances of students undergoing stress and anxiety in this context.

Good summative assessments need to have all the characteristics of good assessment tools like validity, reliability, and practicability.

#### **Characteristics of Summative Evaluation**

- Summative assessment can be described as ‘assessment of learning’ rather than ‘assessment for learning’.
- This occurs at the end of a programme or course and is used to determine the overall effectiveness.
- The goal of summative evaluation is to measure the level of success or proficiency that has been reached at the end of an instructional unit.
- These are the traditional ways of evaluating students
- There is less scope for student involvement
- It focuses on the analysis

#### **Difference between Formative and Summative Evaluation**

| <b>Sl. No.</b> | <b>Formative Evaluation</b>  | <b>Summative Evaluation</b>                              |
|----------------|--|--|
| 1              | Takes place throughout the programme                               | Takes place only at the end of the programme             |
| 2              | Purpose is to improve learning, identify what needs to be improved | Purpose is to assess proficiency or the end result       |
| 3              | The results are presented in the form of feedback                  | The results are presented in the form of marks or grades |
| 4              | Teachers and students are responsible                              | Teachers and administrators are responsible              |
| 5              | Specifics are taken care of, and assessed                          | Overall performance or proficiency                       |
| 6              | Less time is required  | More time is required                                    |

|    |  |   |
|----|--|---|
| 7  | Results deducted are specific in nature. | Generalised conclusions are made                        |
| 8  | The process is casual and informal       | The process is formal                                   |
| 9  | This is a simple process                 | The process is more complex                             |
| 10 | Contributes for further learning         | Does not contribute directly much for further learning. |
| 11 | Achievement based evaluation             | Objective based evaluation                              |

### Check Your Progress - 2

Below are given a few statements representing the characteristics of summative and formative evaluation. Mark statements representing summative evaluation as 'SE' and statements representing formative evaluation as 'FE'.

1. Takes place throughout the programme
2. Takes place only at the end of the programme
3. The purpose is to assess proficiency or the result
4. The purpose is to improve learning, identify what needs to be improved
5. The results are presented in the form of feedback
6. The results are presented in the form of marks or grades
7. Specifics are taken care of and assessed
8. Teachers and students are responsible
9. Teachers and administrators are responsible
10. Less time is required
11. Results deducted are specific in nature.
12. The process is casual and informal
13. Contributes to further learning
14. Achievement based evaluation

#### 6.3.3.3. Continuous and Comprehensive Assessment and Grading

CCE refers to a system of school-based assessment that covers all aspects of a student's development. It attempts to shift the emphasis from 'testing' to 'holistic learning' to create young adults possess appropriate skills and desirable characteristics as human beings along with academic excellence.

The term 'continuous' emphasises that evaluation of identified aspects of students' growth and development needs to be a continuous process rather than an event, built into the total teaching-learning process and spread over the entire span of the academic session. It means regularity of assessment, frequency of unit testing, diagnosis of learning gaps, use of corrective measures, retesting, and feedback of evidence to teachers and students for self-evaluation.

The term 'comprehensive' refers to the coverage of assessment both in scholastic and co-scholastic aspects of students' growth and development. Since abilities, attitudes, and aptitudes manifest themselves in forms other than the written word, the term refers to the application of a variety of tools and techniques (both testing and non-testing) and aims at assessing learners' development in areas of learning like knowledge, understanding, applying, analysing, evaluating and creating.

Continuous and Comprehensive Evaluation (CCE) Continuous and comprehensive evaluation is a process of assessment, mandated by the Right to Education Act, of India. This approach to assessment has been introduced by state governments in India, as well as by the

Central Board of Secondary Education in India. The main aim of CCE is to evaluate every aspect of the child during their presence at the school. This is believed to help reduce the pressure on the child during/before examinations as the student will have to sit for multiple tests throughout the year, of which no test or the syllabus covered will be repeated at the end of the year, whatsoever. The CCE method is claimed to bring enormous changes from the traditional chalk and talk method of teaching provided it is implemented accurately. As a part of this new system, student's marks will be replaced by grades which will be evaluated through a series of curricular and extra-curricular evaluations along with academics. The aim is to decrease the workload on the student by employing continuous evaluation by taking several small tests throughout the year in place of a single test at the end of the academic program. Only Grades are awarded to students based on work experience skills, dexterity, innovation, steadiness, teamwork, public speaking, behavior, etc. to evaluate and present an overall measure of the student's ability. This helps the students who are not good in academics to show their talent in other fields such as arts, humanities, sports, music, athletics, and also helps to motivate the students who have a thirst for knowledge. CCE is child-centric and views each learner as unique. This evaluation system aims to build on the individual child's abilities, progress, and development. That the child should not feel burdened during the learning years, CCE made formative and summative assessments mandatory in all CBSE schools. The learner thus was also benefitted by having to focus on only a small part of the entire syllabus designed for an academic year.

### **Main Features**

CCE emphasises a two-fold objective namely, continuity in assessment and assessment of broad-based learning.

Identifies the learning process of students at regular intervals with specific objectives.

Employs a variety of remedial measures of teaching, based on the learning needs and potential of different students

### **Objectives**

- To help develop cognitive, psychomotor, and affective skills
- To emphasise thought process and de-emphasise memorisation
- To make evaluation an integral part of the teaching-learning process
- To use evaluation for improvement of student achievement and teaching-learning strategies based on regular diagnosis followed by remedial instructions
- To use evaluation as a quality control device to maintain the desired standard of performance
- 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

### **Need of CCE**

- To take care of continuity and periodicity of assessment
- To overcome the limitations of the traditional system of evaluation: the traditional system was confined only to scholastic aspects and did not promote the child from a holistic perspective. CCE helps to make the system of evaluation more comprehensive.

- To make evaluation an integral part of the total teaching-learning process: Evaluation was not considered as part of teaching in the traditional system. It was considered as a process apart from teaching. CCE considers evaluation as an integral part of the teaching-learning process
- To meet the needs of individual learners: CCE has scope to evaluate every child. It helps to achieve the aims of inclusive education.
- Different education commissions have recommended Continuous and Comprehensive evaluation as an integral part of education. Kothari education commission suggested that evaluation should be comprehensive including all those aspects of students' growth including personality traits, interests, and attitudes. National Policy on Education 1986, recommended that "continuous and comprehensive evaluation should incorporate both scholastic and non-scholastic aspects of evaluation spread over the total span of the instructional time". The National Curriculum Framework 2005 also suggested that 'School-based CCE system should be established, which can reduce stress among children, make evaluation comprehensive and regular and produce learners with greater skills and creative works.' Right to Education act 2009, stated that a scheme of continuous and comprehensive evaluation should be implemented from standard 1st to 8th standard.

**Specific reasons to implement CCE:**

- To reduce stress and anxiety among students
- To reduce dropouts
- To give greater focus to learning than teaching
- To make learning more meaningful
- To emphasise conceptual clarification through experiential learning
- To help students to develop cognitive, affective, and psycho motor skills
- To de-emphasise memorization and rote learning
- To guide the teaching-learning process based on appropriate diagnostic processes
- To make the learning process more learner centered.

**Components of Continuous and Comprehensive Evaluation**

| Level   | I             | Techniques   | Tools   | Periodicity And Recording   | Reporting   |
|---------|---------------|--|---|---|---|
| Primary | I and II      | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Oral</li> <li>• Written</li> </ul> | <ul style="list-style-type: none"> <li>• Observation Schedule</li> <li>• Oral questions</li> <li>• Written test question papers</li> <li>• Diagnostic tests</li> </ul>  | <ul style="list-style-type: none"> <li>• Day today observation and recording</li> <li>• At the end of the unit</li> <li>• Recording after the test</li> </ul> | <ul style="list-style-type: none"> <li>• Direct/Absolute grading (three point)</li> </ul> |
| Primary | III, IV and V | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Oral</li> <li>• Written</li> </ul> | <ul style="list-style-type: none"> <li>• Observation Schedule</li> <li>• Oral questions</li> <li>• Written test question papers</li> <li>• Diagnostic tests</li> <li>• Assignment</li> <li>• Project</li> </ul> | <ul style="list-style-type: none"> <li>• Unit wise</li> <li>• Monthly</li> <li>• Terminal</li> <li>• Recording after the test</li> </ul>                      | <ul style="list-style-type: none"> <li>• Absolute grading (three point)</li> </ul>        |

|                  |            |  |   |  |   |
|------------------|------------|--|---|--|---|
| Upper Primary    | VI to VII  | <ul style="list-style-type: none"> <li>• Oral</li> <li>• Written</li> <li>• Practical</li> </ul> | <ul style="list-style-type: none"> <li>• Oral questions</li> <li>• Written test question papers</li> <li>• Diagnostic tests</li> <li>• Assignment</li> <li>• Project</li> <li>• Activity</li> <li>• Experiment</li> </ul>           | <ul style="list-style-type: none"> <li>• Unit wise</li> <li>• Monthly</li> <li>• Terminal</li> <li>• Recording after the test</li> </ul> | <ul style="list-style-type: none"> <li>• Absolute grading (five point)</li> </ul> |
| Secondary        | IX And X   | <ul style="list-style-type: none"> <li>• Oral</li> <li>• Written</li> <li>• Practical</li> </ul> | <ul style="list-style-type: none"> <li>• Oral questions</li> <li>• Written test question papers</li> <li>• Diagnostic tests</li> <li>• Assignment</li> <li>• Project</li> <li>• Activity/Practical</li> <li>• Experiment</li> </ul> | <ul style="list-style-type: none"> <li>• Unit wise</li> <li>• Monthly</li> <li>• Terminal</li> <li>• Recording after the test</li> </ul> | <ul style="list-style-type: none"> <li>• Absolute grading (nine point)</li> </ul> |
| Higher Secondary | XI And XII | <ul style="list-style-type: none"> <li>• Oral</li> <li>• Written</li> <li>• Practical</li> </ul> | <ul style="list-style-type: none"> <li>• Oral questions</li> <li>• Written test question papers</li> <li>• Diagnostic tests</li> <li>• Assignment</li> <li>• Project</li> <li>• Activity/Practical</li> <li>• Experiment</li> </ul> | <ul style="list-style-type: none"> <li>• Unit wise</li> <li>• Monthly</li> <li>• Terminal</li> <li>Recording after the test</li> </ul>   | <ul style="list-style-type: none"> <li>• Absolute grading (nine point)</li> </ul> |

### Advantages:

- Elimination of subjectivity in evaluation Provides scope to give meaningful feedback
- Contributes for further learning
- Gives scope to make learner responsible of learning
- Holistic evaluation possible
- Possibility of wider use of evaluation results
- Learning becomes more meaningful
- Scope to make evaluation integral part of teaching learning process
- Reduces stress and tension
- Checks students' achievement in regular intervals of time
- Communicates the limitations in students' learning and promotes further learning
- Encourages specific abilities of students
- Improves students' performance
- All round development of students is possible
- Scope to change teaching and learning techniques based on feedback
- Dragonises students' needs and problems
- Gives proper feedback for both students and teachers
- Motivates students for further learning

### Limitations

- Time consuming
- Needs proper orientation
- Unfavourable attitude of teachers and school setup
- Assessment is elaborative

- Difficult in classes where the number of students is more

### Grading

You are familiar about grading system. Before understanding the meaning of grading observe the common grading system in India.

| Grade | Scale          | Grade Description                     | US Grade | Notes   |
|-------|----------------|---------------------------------------|----------|---|
|       | 60.00 - 100.00 | First Division/First Class            | A        |   |
|       | 50.00 - 59.00  | Second Class/Second Division          | B        |   |
|       | 40.00 - 49.00  | Third Class/Third Division/Pass Class | C        | Please note, minimum pass can vary, typically between 30 and 40 |
| G     |                | Conceded Pass/Grace Marks             | D        |   |
|       | 0.00 - 39.00   | Below Minimum Pass                    | F        | Any grade below the institutions' minimum pass                  |

### Letter Grade

| Grade | Scale       | Grade Description | US Grade |
|-------|-------------|-------------------|----------|
| AA    | 10.00       | Outstanding       | A        |
| A+    | 10.00       | Outstanding       | A        |
| AB    | 9.00 - 9.99 | Excellent         | A-       |
| A     | 9.00 - 9.99 | Excellent         | A-       |
| BB    | 8.00 - 8.99 | Very Good         | B        |
| B     | 8.00 - 8.99 | Very Good         | B        |
| BC    | 7.00 - 7.99 | Good              | B-       |
| B-    | 7.00 - 7.99 | Good              | B-       |
| CC    | 6.00 - 6.99 | Pass              | C        |
| C     | 5.00 - 5.99 | Pass              | C        |
| FF    | 0.00 - 4.99 | Failed            | F        |
| F     | 0.00 - 5.99 | Fail              | F        |
| NA    |             | Not Appeared      |          |

The word 'grade' is originated from the French word 'grade' meaning the degree of measurement. Its Latin synonym is 'gradus' which mean a degree of something rising by stages

Grading in education is the process of applying standardized measurements of varying levels of achievement in a course. Grades can be assigned as letters as shown above, as a range (for example, 1 to 6), as a percentage, or as a number out of a possible total (for example, out of 20).

Grading is a formal certification of competence and achievement of learning outcomes that should reflect as accurately as possible a student's performance in a module or its elements.

A valid grading system should meet three criteria:

1. It should accurately reflect differences in student performance
2. It should be clear for students so that they should be able to chart their progress
3. It should be fair.
4. The criteria for grading should be communicated.

The award of grade6s is a matter of academic judgment against agreed criteria (learning outcomes and grade descriptors) and should not be simply a mathematical exercise. It is a way to communicate what is intended to be communicated.

Grading practices are generally more consistent. A grade is the overall level of achievement of a course of study. The course profile indicates how the marks for individual assessment items are combined to give a grade. Various types of descriptive information and measure of students' performance are converted into grades that summarises students' accomplishments. Grade implies a set of symbols like O, A, B, C, D, etc.

The type of learning criteria teachers use for grading and reporting can be classified under three headings:

**Product Criteria:** The primary purpose of grading is to communicate students' achievement and performance. These focus on what students know and can do at a particular point in time. Teachers who use product criteria base grade exclusively on final examination scores, final products (reports or projects), overall assessments, and other culminating demonstrations of learning.

**Process Criteria:** Process criteria are followed by educators who believe product criteria do not provide a complete picture of student learning. From this perspective, grading should reflect not only the final results but also how the result was achieved. Here the regular activities that are conducted throughout the session such as quizzes, experiments, class participation, interaction, etc are considered while grading.

**Progress Criteria:** This is also referred to as improvement scoring, learning gain, or value-added grading. Here the extent of learning by students is considered in the process of grading.

## **Approaches for grading**

Grading is essentially meant for categorising students into a few ability groups based on their performance in the examination. There are two approaches to the formation of groups that define the grade.

### **1. Absolute Grading:**

This approach involves direct conversion of marks into grades. Whatever be the distribution of marks in a subject, the marks between two fixed points on the 0-100 scale would correspond to a given grade. For example, the students can be categorised into 5 groups: Distinction, 1st, 2nd, 3rd class, and fail categories based on marks, as given below

75 and above – Distinction

60-74 – 1st Class

50- 59- 2nd Class

35-49-3rd Class

Below 35-Fail

Any number of groups corresponding to grades can be made. However, because of the disparity in the distribution of marks of different subjects, Grade A of one subject cannot be treated as par with grade A of another subject, though Grade A is based on the same cut-off point in both the subjects.

For example, if this is decided to award Grade A to those secured 90% or more whatever be the subject, there may not be any student under Grade A in English or History, while quite a few will be getting Grade A in Math.

This only serves as a substitute for the individual marking system, except it gives several ability groups.

### **2 .Comparative Grading:**

In this approach, the marks are converted into grades based on rank order or percentiles. The distribution of marks is taken into consideration while determining the range of marks, corresponding to different grades.

For example, the top 10% may be given grade A, the next 10% grade B, and so on. Here the actual cut-off score for grade A in one subject may be quite different from that of another subject. The grade the student gets depends on what his/her marks are in relation to the marks obtained by others. This type of grading corresponds to norm-referenced testing.

### **3. Direct Grading:**

Indirect method grades are assigned to answers directly based on their quality. The evaluators categorise the answer of students into five or seven categories, as the case may be according to the quality of answers of students. If the evaluator feels that the answer written by the examinee is of very high quality, grade 'O' may be assigned to it. Similarly, if the evaluator feels that the answer written is of very poor quality, grade 'F' may be assigned to it on a seven-point scale. The procedure is shown below:

|                  |             |           |      |         |              |      |           |
|------------------|-------------|-----------|------|---------|--------------|------|-----------|
| Grade in letters | O           | A         | B    | C       | D            | E    | F         |
| Grade in digits  | 6           | 5         | 4    | 3       | 2            | 1    | 0         |
| Grade in words   | Outstanding | Very Good | Good | Average | Satisfactory | Poor | Very poor |

But what is the criteria to consider the answer as ‘O’ should be made known to the students before the test in a descriptive manner. For example in a composition test, the criteria to obtain ‘O’ are:

- Free from grammatical errors
- Comprehensive in terms of content coverage
- Legible handwriting
- Use of appropriate words
- Presented under different paragraphs using topic sentence
- Coherence maintained throughout

The criteria for each grade point should be made clear for students before giving the test.

### Calculation of Grade Point Average (GPA)

Grade Point Average can be obtained by assigning the letter grades to each question separately and awarding numerical weightage. These weights are added algebraically and average grade points can be calculated using the following formula:

$$\text{GPA} = \frac{\sum \text{GP}}{N}$$

N=Total number of questions,  $\Sigma$ =Summation, GP=Grade Point Scale. Suppose 8 questions were graded by an examiner on a seven-point scale, the overall grade of the examinee will be

|                  |   |   |   |   |   |   |   |   |
|------------------|---|---|---|---|---|---|---|---|
| Assigned Grade   | A | D | C | O | B | B | B | B |
| Assigned numbers | 5 | 2 | 3 | 6 | 4 | 4 | 4 | 4 |

$$\text{GPA} = \frac{5+2+3+6+4+4+4+4}{8} = 4 = \text{‘B’ Grade.}$$

**1.6. Statistical Grading:** In this method, the teacher marks the answer books as usual in terms of numerical scores and then grades are assigned by using certain statistical techniques. Here, scores are converted into grades based on any two criteria given below:

(i) Range of Score Grades: In this method, grades are assigned to students based on the range of scores. For example, the seven-point scale can be prepared as follows:

|        |           |        |        |        |   |   |   |
|--------|-----------|--------|--------|--------|---|---|---|
| Grade  | O         | A      | B      | C      | D | E | F |
| Scores | Above 91% | 81-90% | 61-80% | 51-60% | 2 | 1 | 0 |

### (ii) Merit List Grading:

This method is simple. In this method, answer scripts are arranged either in ascending or descending order based on marks obtained by students. Subject wise merit list of all students

is prepared according to a specific purpose. The students who have scored least are put at the bottom of the list and who have scored more are put at the top of the list.

**Merits:**

- It reduces inter and intra examiners variability
- Reduces fear of examination
- Motivates learning
- Scope to strengthen self-esteem
- It gives an estimation for students about their achievement
- Gives an estimation of social and personal development
- Helps administrative and guidance purposes
- Informs parents about students' progress

**Limitations of Grading System:**

- Letter grades, for example, offer parents and others an approximate description of student achievement and the adequacy of their performance. This requires the abstraction of a great deal of information into a single symbol. Besides, cut-offs between grades are always arbitrary and difficult to justify. Grading lacks the richness of other, more detailed reporting methods such as narratives or standard-based reports.
- Discourages meritorious students.
- Very difficult to fix a child to a grade, despite specific criteria, since the child may not exactly fit any grade criteria.
- It requires expertise to fix the criteria for grading
- It is not suitable for quantitative evaluation
- There is scope for subjectivity

**Check Your Progress - 3**

Below are given some statements. Identify the statements that say about the characteristics of a continuous and comprehensive evaluation by putting '√' mark.

1. attempts to shift the emphasis from 'testing' to 'holistic learning'
2. means regularity of assessment,
3. refers to the coverage of assessment both in scholastic and co-scholastic aspects
4. refers to the application of a variety of tools and techniques
5. means conducting term examination
6. assigning marks for every activity

**1.6.4. Let us Summarise**

- "A test is a systematic procedure for measuring a sample of behaviour"-Fredrick G Brown
- In general usage, a test is an assessment intended to measure a test taker's knowledge skill, aptitude, etc.
- "Measurement is a process of assigning numbers to individuals or their characteristics according to specific rules."
- An examination is a form of test conducted by educational institutions to know how much one has achieved or where one stands in comparison to others. It is a tool used to see how good somebody is at something.
- Formative evaluation is concerned with judgments made during the design or development stage of a programme which is directed towards modifying, forming, or otherwise improving the programme before it is completed".

- Summative evaluation is usually conducted at the end of a term to find out the extent to which the institutional, including instructional objectives, has been achieved. It is used basically to assign grades or to decide the promotion of students. The techniques and tools of summative evaluation are decided based on institutional and instructional objectives. It gives a sort of feedback for the functioning of the school and its practices.
- CCE refers to a system of school-based assessment that covers all aspects of a student's development. It attempts to shift the emphasis from 'testing' to 'holistic learning' to create young adults possess appropriate skills and desirable characteristics as human beings along with academic excellence.
- The word 'grade' is originated from the French word 'grade' meaning the degree of measurement. Its Latin synonym is 'gradus' which mean a degree of something rising by stages
- Grading in education is the process of applying standardized measurements of varying levels of achievement in a course. Grades can be assigned as letters as shown above, as a range (for example, 1 to 6), as a percentage, or as a number out of a possible total (for example, out of 20).

### **1.6.5. Answer to 'Check Your Progress - 1, 2 and 3'**

#### **Check Your Progress - 1**

a-3, b-4, c-1, d-2.

#### **Check Your Progress - 2**

1,4,5,6,7,8,10,11,12,13,14-FE

2,3,6,9-SE

#### **Check Your Progress - 3**

1,2,3,4 - '√'

### **1.6.6. Unit end Exercises**

1. Explain the concepts of test, examination, and evaluation. State the merits and limitations of each of these processes.
2. Explain the concepts of formative and summative evaluation and differentiate between them.
3. Explain the concept and process of continuous and comprehensive evaluation. Enumerate its merits and limitations.

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## **Block 2 : Assessment Procedure**

### **Unit 1 : Assessment tools and tasks: Assessment of Projects; Performance-Based Assessment, Assessment of Assignments; Different kinds of tests and their Construction**

#### **Unit Structure**

- 2.1.2. Learning Objectives
- 2.1.2. Introduction
- 2.1.3. Learning Points and Learning Activities
  - 2.1.3.1. Assessment of Projects
    - Check Your Progress - 1
  - 2.1.3.2. Performance-based assessment
    - Check Your Progress - 2
  - 2.1.3.3. Assessment of Assignments
    - Check Your Progress - 3
  - 2.1.3.4. Different kinds of tests and their construction
    - Check Your Progress - 4
- 2.1.4. Let us Summarise
- 2.1.5. Answers to ‘Check Your Progress - 1, 2, 3 and 4’
- 2.1.6. Unit end Exercises
- 2.1.7. References

#### **2.1.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Explain the procedure of assessing projects;
- Analyse the procedure of performance-based assessment;
- Explain the procedure of assessing assignments; and
- Clarify different types of tests and procedures for constructing these tests.

#### **2.1.2. Introduction**

You are aware that there are different activities organised or conducted in school set up to achieve the set objectives. Normally we have observed that teachers just assign marks for each of these activities in a superficial manner. Neither the teacher nor the students know why a particular mark is assigned for a particular work of students. Are we in a position to give exact reasons for assigning a particular mark? This is because we are not clear about the nature or procedure of assessing different activities. Each activity requires a definite procedure and criteria which both the teachers and the students should be aware of before assessment. This is a mandatory condition. Hence, in this Unit, let us learn how to assess different aspects like projects, performance-based activities, assignments, etc. Let us also concentrate on different kinds of tests that we could use in our assessment process and also the procedure of constructing them.

Several tools and techniques are used for assessing the learning outcomes of the student in various subjects of the school curriculum. Apart from this, for assessing non-scholastic areas also efforts are made in significant measure. For such assessment, many testing and non-testing devices are used. Let us understand some of such testing devices in this unit.

### **2.1.3. Learning Points and Learning Activities**

#### **2.1.3.1. Assessment of Projects**

Project is defined as the problematic act carried out to completion in the most natural setting. The act or activity involved is helpful in the solution of the problem. These activities may reveal how students work and how they convert learning into practice. Teachers can understand how students apply their knowledge in daily life that is learned in these projects.

#### **The project as a teaching strategy**

W H Kilpatrick is the exponent of this method of teaching. He defined the project as “a problematic act proceeding in a social environment”. It is mostly used to achieve cognitive and affective objectives. The main aim of the project method is to socialise students and to develop the ability for problem-solving.

Project work challenges students to think beyond the boundaries of the classroom, helping them develop the skills, behaviours, and confidence necessary for success in life. Designing learning environments that help students’ question, analyse, evaluate, and extrapolate their plans, conclusions, and ideas, leading them to higher-order thinking, requires feedback and evaluation that goes beyond a letter or number grade. The term “authentic assessment” is used to describe assessment that evaluates content knowledge as well as additional skills like creativity, collaboration, problem-solving, and innovation.

An authentic assessment documents the learning that occurs during the project-building process and considers the real-world skills of collaboration, problem-solving, decision making, and communication. Since project work requires students to apply knowledge and skills throughout the project-building process, there are many opportunities to assess work quality, understanding, and participation from the moment students begin working.

For example, project evaluation can include concrete documents like the project vision, storyboard, and rough draft, verbal behaviours such as participation in group discussions and sharing of resources and ideas, and non-verbal cognitive tasks such as risk-taking and evaluation of information.

#### **Developing Assessment tools for projects**

As we design the project, it is helpful, to begin with, the end in mind. What performances do we want to see? Then, we need to determine exactly how students will demonstrate each performance as they build a product or solve a problem to complete the task.

The following are a few focal points while assessing a project

#### **Content Knowledge**

What new content did the students learn?

Did they learn more or less than they expected?

What surprised them?

What else they would like to know about the topic?

### Collaboration and Teamwork

How did each one's work and actions contribute to the team's success?

What was the hardest part about working in a team?

What was the best part?

### Technology and communication

What new skills did they learn?

What else did they want to learn?

### Creating Rubrics for assessing projects

Because many performances cannot easily be quantified, one needs to be as specific about the expectations as possible. Creating a rubric for the final product and various components of project work can ensure a more accurate, specific, and useful assessment.

| Score level | Content   | Conventions of Documentation  | Organization   | Presentation  |
|-------------|---|---|--|---|
| 4           | The title of the project is accurate, and supports the solution to the question<br>Reflects application of critical thinking<br>The project is crisp and focused<br>The goals are clear<br>Enough reference work done | No spelling, grammatical, punctuation errors.<br>Appropriate use of vocabulary                | Information is focused in an organized manner.<br>Information is organized in logical manner to support solution | Presentation is supported by multi media and other apt tools<br>Presentation is logical<br>Presentation is creative |
| 3           | The title of the project is accurate, and supports the solution to the question<br>Application of critical thinking is seen<br>Goals are clear and related to the topic<br>Enough reference work done<br>Is accurate  | Few spelling, grammatical, punctuation errors(upto 3)<br>Good use of word choice              | Information supports the solution to the problem   | Presentations is logical and clear but not creative   |
| 2           | Is well thought out, and supports the solution to the question<br>Application of critical thinking is not much seen<br>Goals not very clear<br>Has some inconsistencies   | Few spelling, grammatical, punctuation errors(upto 5)<br>use of word choice at moderate level | Focus is not continuously maintained.<br>Information is not appropriately used to arrive at solution             | Presentation is clear but not highly logical  |
| 1           | Information not in line with solution<br>No apparent critical thinking<br>Goals not clear<br>Has factual errors   | More spelling, grammatical and punctuation errors( more than 6)<br>Poor use of word choice    | Information does not support the solution  | Presentation is clear but illogical   |

A rubric is an authentic assessment tool that:

- Provides clear expectations for a project.
- Examines the product as well as the entire project-building process.
- Enumerates the performances on which students will be evaluated.
- Explains what constitutes excellence during the project process.
- Helps students understand what they need to do to excel.
- Helps remove subjectivity and bias from the evaluation process.

Sharing and clarifying the performances that will be assessed during a project removes the mystery from the evaluation process, helping students focus on specific actions they can take to improve their performance.

### **Involving Students in Assessment**

Involving students in project assessment boosts motivation, improves meta-cognition, and promotes self-directed learning. Students who are asked to reflect on their performance learn to evaluate their strengths and weaknesses and can pinpoint where to focus their efforts to see the greatest results.

One can make students provide feedback and critiques by asking them to keep a project journal or work log, evaluate themselves using the project rubric, and answer additional self-assessment questions. An open-ended self-assessment allows students to share the learning that occurred during the process that was not included in the rubric. As they reflect and evaluate, students should describe their learning and contemplate decisions they have made individually and as a team.

Students complete a peer evaluation for components of the project, such as the project presentation. Students can also evaluate the writing, design, and effective communication during the creation and presentation of the final product. Combining teachers' assessment of the process and the end product with student reflections and evaluations will help to create a more accurate assessment of student performance.

### **Audience Assessment**

Authentic project work should reflect the questions, problems, and needs of the world beyond the classroom. If the work is something that has real value, one should make sure that there is a wider audience for the final product presentation. Having students create web pages to display their ideas and findings enables their products to easily reach a wider audience. If the project deliverable involves an oral presentation, peers, family, or community members need to be invited to attend the presentation.

### **Success criteria in the context of project assessment**

Identification of success criteria is an important task of teachers while guiding and assessing projects of the student. Success criteria are the evaluative measure that students use to determine when they've achieved the established learning goal or objective. Success criteria typically break down the task or skill into meaningful, achievable chunks that relate directly to the work that students do. Success criteria are not intended to be used as a checklist of what students should do or the process they should be following; instead, success criteria are intended to be a reflective tool that enables students to evaluate and refine their work. Developing the success criteria with students is an excellent strategy for teachers because it provides an opportunity for teachers to identify the level of student understanding of a concept or skill by listening to what students identify as being important to include in a

success criterion. Success criteria are empowering and create transparency about the learning outcomes and assessment measure while making learning visible for students.

### **Check Your Progress - 1**

Read the statements given below and identify the ‘true’ and ‘false’ statements

1. Success criteria are the evaluative measure that teachers use to determine when the students have achieved the established learning goal.
2. Assessment should be an ongoing practice when implementing project-based learning.
3. Using an open-ended assessment strategy at the beginning of a project will help to identify priorities for explicit teaching.
4. Authentic project work should reflect the questions, problems, and needs of the world beyond the classroom.
5. Students should not be involved in the assessment process of projects.

#### **2.1.3.2. Performance-based assessment**

The act of learning involves multifaceted purposes. It intends to develop knowledge, skills as well as work habits. It also involves the application of these knowledge, skills, and habits in real-life situations. Performance-based learning and assessment reflect a set of strategies that contribute to both the purposes mentioned above. These strategies help to develop the required abilities as well as facilitate the application of the learned knowledge in real situations.

Thus, the assessment of performance-based learning aims to measure the theoretical knowledge and skills as tested in traditional testing procedures. Apart from this, it focuses on the ability of students to apply the learned knowledge and skills in practical situations. This makes the assessment more authentic and meaningful for students. They understand the value of what they are learning.

Performance-Based Assessment is a form of testing that requires students to perform a task rather than answering from a readymade list.

Performance-based learning is when students participate in performing tasks or activities that are meaningful and engaging. The purpose of this kind of learning is to help students acquire and apply knowledge, practice skills, and develop independent and collaborative work habits. The culminating activity or product for performance-based learning is one that lets a student demonstrate evidence of understanding through a transfer of skills.

A performance-based assessment is open-ended and without a single, correct answer, and it should demonstrate authentic learning, such as the creation of a newspaper or class debate. The benefit of performance-based assessments is that students who are more actively involved in the learning process absorb and understand the material at a much deeper level. Other characteristics of performance-based assessments are that they are complex and time-bound.

Also, there are learning standards in each discipline that set academic expectations and define what is proficient in meeting that standard. Performance-based activities can integrate two or more subjects and should also meet 21st Century expectations whenever possible:

- Creativity and Innovation

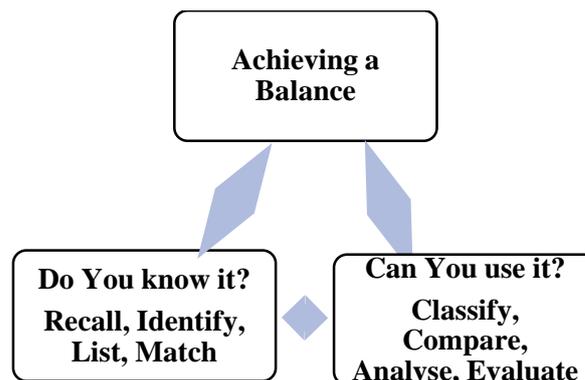
- Critical Thinking and Problem Solving
- Communication and Collaboration

### **Achieving a balance**

Performance-based learning and assessment achieve a balanced approach by extending traditional fact-and-skill instruction. Performance-based learning and assessment are not curriculum design. Whereas you decide what to teach, performance-based learning and assessment constitute a better way to deliver your curriculum. Teachers do not have to “give up” units of study or favourite activities in a performance-based classroom. Because authentic tasks are rooted in the curriculum, teachers can develop tasks based on what already works for them. Through this process, assignments become more authentic and more meaningful to students.

Traditional testing intends to know “what students know”, whereas Performance assessment tries to answer “how well students can use what they know”. Both aspects should be balanced in performance assessment.

Let us see the specifications of objectives that help to balance these two aspects.



### **Content Knowledge**

The subject area content can come from already defined curriculums or can be enhanced by the adoption of a set of themes or topics by the department, grade-level team, school, or school system.

### **Process Skills**

Higher-order thinking or process skills can come from various disciplines, such as writing or proofreading from language arts or math computation and problem-solving skills. Other process skills cut across subject area lines or may be identified as areas of need based on standardized testing (e.g., analogies, categorizing information, drawing inferences, etc.).

### **Work Habits**

Time management, individual responsibility, honesty, persistence, and intrapersonal skills, such as appreciation of diversity and working cooperatively with others, are examples of work habits necessary for an individual to be successful in life.

## Performance Tasks

Performance tasks build on earlier content knowledge, process skills, and work habits and are strategically placed in the lesson or unit to enhance learning as the student “pulls it all together.” Such performance tasks are not “add-ons” at the end of instruction. They are both an integral part of the learning and an opportunity to assess the quality of student performance. When the goal of teaching and learning is knowing and using, the performance-based classroom emerges.

Performance tasks range from short activities taking only a few minutes to projects culminating in polished products for audiences in and outside of the classroom. In the beginning, most performance tasks should fall on the short end of the continuum. Teachers find that many activities they are already doing can be shaped into performance-learning tasks.

Two initial concerns of teachers moving toward performance-based classrooms include the amount of time needed for performing tasks and the subjectivity traditionally associated with teacher assessment and assigning “grades.”

### How to design and assess a performance task:

Step-1: list the specific skills and knowledge you wish pupils to demonstrate

Step-2: Design a performance task that requires pupils to demonstrate these skills and knowledge

Step-3: Develop explicit performance criteria and expected performance levels measuring pupil’s mastery of skills and knowledge(rubrics)

### Performance Task Assessment Lists

Performance task assessment lists are assessment tools that provide the structure students need to work more independently and to encourage them to pay attention to the quality of their work. Assessment lists also enable the teacher to efficiently provide students with information on the strengths and weaknesses of their work. In creating performance task assessment lists, teachers focus on what students need to know and be able to do. One result is that teachers can more consistently and fairly evaluate and grade student work. Information from performance task assessment lists also helps students set learning goals and thus helps teachers focus subsequent instruction. Parents can also use assessment lists to monitor their student's work in school and to help their children check their work at home.

An example of a performance task assessment list concerning learning about ‘Graphs’

| Sl. No | Element   | Assessment Points |
|--------|---|-------------------|
| 1      | An appropriate type of graph (line or bar) is used.   |                   |
| 2      | Appropriate starting points and intervals are used for each axis.                           |                   |
| 3      | There is a main title for the graph which clearly states the relationship between the axes. |                   |
| 4      | An appropriate scale is used on each axis depending on the range of data for that axis.     |                   |
| 5.     | Axes are clearly labelled.  |                   |

|     |  |  |
|-----|--|--|
| 6.  | The independent variable is put on the (X) axis, and the dependent variable is put on the (Y) axis.                  |  |
| 7   | The data are plotted accurately.   |  |
| 8   | Trends or lack of trends are depicted on the graph   |  |
| 9   | An appropriate key or legend is part of the graph.   |  |
| 10. | Appropriate techniques such as color, texture, or clarifying labels are used to make the graph easier to understand. |  |
| 11  | The whole graph uses the space given it on the paper well.   |  |
| 12  | The graph is neat and presentable.   |  |
| 13  | The graph is easy to interpret.  |  |

## Check Your Progress - 2

### Identify which of the following activities require performance-based assessment

1. Learn the assigned poem by heart
2. Solve the problems given at the end of the unit
3. Organise a creative painting camp on the school campus
4. Design an invitation for the school day
5. Plan and execute a workshop on Kannada folk songs for students

### 2.1.3.3. Assessment of Assignments

The assignment given to students is a good means of assessing the learning outcomes of students. Assignments may be linked to their 'content' of the curriculum or what they study and do in the school. Both are important to know the working behaviour of the students.

The assignment is something that is assigned, especially a piece of work to be done. Assignment means the act of assigning, the allocation of a job or set of tasks. In education, it is a task given to students, such as coursework and daily routine work.

The assignment is focused on a specific, pre-defined task. The project involved a variety of inter-related tasks to be performed to achieve a particular aim.

Homework is a task that should be done at home, while an assignment assigns anywhere as long as one can accomplish it before the due date.

Hence, assignments are tasks requiring student engagement and a final tangible product that enables the teacher to assess what his/her students know and do not know.

### Design of an Assignment

- The main objective of an assignment is to evaluate whether the subject matter is understood by the students.
- Depending on the content and curriculum of the subject for the semesters, teachers often give assignments on key objectives and teaching goals of the curriculum. Assignments help assess the writing skills, cognitive understanding level, and presentation skills of the students.

- Group assignments are great assessment tools as they analyze whether the students can work together on a project and whether they understand what is being taught in class.
- An assignment is designed in a way that makes it very clear to students as to what is expected of them. Assignments have various subsections in them. A well- designed assignment gives the word count and marks distribution for every section of the assignment.
- Marks are given based on structured criteria and each section is assigned marks. This means that there is a standard evaluation process and every student is assessed, fairly based on the criteria for giving marks.
- Usually, there is a standard rubric for marking an assignment that is used to create an assignment. Sometimes customized rubrics are used for assignments where the evaluation criteria are changed slightly depending on the nature of the assignment and subject.

### **Basic Rules for Creating an Assignment**

If the assignment is not created properly, students will not benefit from the work. Assignments are a method of assessment of a student's ability in the subject. If the students get bad assignments that don't make them think and explore the subject, then the assessment of the ability of the students in that subject will be compromised. There are some Do's and Don'ts that tutors need to follow while making an assignment. They are as follows:

- The most important aspect of designing an assignment is clearly defining the guidelines. The teachers should give clear instructions on exactly what is expected in the assignments.
- Assignments are generally framed in the form of questions on a topic. The topic questions should be open-ended and not close-ended. Close-ended questions limit the thinking of a student and this is not beneficial for the student's ability to learn from the assignment.
- Assignments are an assessment tool for the grade but they are also ways in which students learn. Professors generally give students helpful links and reference pages to the students. An understanding of the subject is taught to the students before they do the assignment. Assignments, however, should not have one ideal answer.
- Assignments assess the ability of students to think. Tutors must judge an assignment on its merit and not by matching it to a model answer sheet created in advance.
- For an assignment to be successful the tutor must match the word count with the topic of the question in the assignment. This means that if the word count is limited and the subject matter is extensive, students will not be able to do justice to the assignment.
- Generally, a template or a model of the assignment is given to the students with the assignment. This decides the structure of the assignment and helps students to do assignments in a predetermined structure.
- Clear guidelines also mean simple and easy to follow concise guidelines. If an assignment has pages worth of guidelines, it becomes a tedious process and students can get confused. The focus of the student shifts from the subject to following every guideline. Assignments are assessment tools for understanding whether students understand the subject. Too many guidelines are always in the way of learning.
- Criteria for evaluation, word count, marks assigned, and clear instructions of the expectations from an assignment will help students submit quality assignments.

## Assignment and Assessment of Students

There may be many kinds of assignments relevant to assessing writing, practical work including laboratory work, reflective assignments, performance, and oral work. The assignment could be assessed either in the formative or summative assessment mode. It opens up opportunities for self and peer evaluation.

There are also opportunities to involve technology in the preparation, presentation, marking, and providing feedback for students. For effective assessment of assignments, the following points should be considered:

1. Consider the level of experience, knowledge, and skills of students;
2. Determine the appropriate level of difficulty for the assignment, that is, too challenging assignments can frustrate students or cause them to shut down, while not challenging assignments can lead to lack of motivation;
3. Offer a variety of ways to adapt the assignment to student interests. By allowing a student to address a particular topic or interest area in the context of the assignment, the work becomes more meaningful, practical, and useful outside the classroom;
4. Communicate the purpose of the assignment, the relationship between the given assignment and learning objectives, and how the assignment fits in the overall structure of the course;
5. Determine the end-user of the assignment (whom the students address)
6. Provide graphic rubric;
7. Outline the requirements including the format, length, citation and writing style and deadlines;
8. Review the timing and length of the assignment.

## Check Your Progress - 2

Fill up the blanks by selecting appropriate answers.

1. The main objective of an assignment is to evaluate
  1. Knowledge of subject matter
  2. Attitude towards a particular issue
  3. Competency of a skill
  4. All the above
2. Assignments help to know
  1. Skills of students
  2. Interpersonal relationship
  3. Reading ability
  4. Presentation skills of the students.
3. Group assignments analyze whether the students can
  1. Work together
  2. Follow instruction
  3. Reach the goals set
  4. All the above
4. A well- designed assignment
  1. Gives the word count
  2. Gives Marks distribution with clarity
  3. Correct instructions
  4. All the above

5. Rubrics are designed for assessment to clarify mainly
  1. Criteria for assessment
  2. Points to be covered marks assigned for different aspects
  3. The objective of the assignment

#### **2.1.3.4. Different kinds of tests and their construction**

Two types of tests are very important for a classroom teacher. One is the achievement tests and diagnostic tests. Though these are seen as two different types of tests, it is not proper to draw a hard and fast partition between these two types. General achievement tests, as is clear from its name, measure achievement from any area of knowledge. These tests provide one single score as an index of achievement for one particular area. The diagnostic test indicates the weakness or strength of several areas.

Let us understand the meaning and the procedure of the preparation of these tests.

#### **I. Achievement Tests**

In our educational system, assessment in the cognitive domain is generally done using achievement tests. An achievement test is a test that assesses knowledge and skills acquired by students. The more common type of achievement test is a standardized test, developed to measure the knowledge and skills learned at a given level, usually through planned instruction. Therefore, any test that measures the attainment and accomplishment of an individual after a period of training or learning, is called an achievement test.

According to Ebel, “an achievement test is one designed to measure students’ grasp of knowledge and his proficiency in certain skills”

It is used to ascertain what and how much has been learned or how much has been performed.

#### **Construction of Achievement tests**

There are several steps involved in the construction of Achievement tests.

1. Planning the test: Objectives and curriculum analysis.
2. Preparation of the first draft of the test: Item selection.
3. Trying out of the first draft of the test: Test administration, Scoring, Finding out Reliability, Validity, and Item Analysis.
4. Final drafting of the tests: Administration, Application, and Fixing scoring procedures
5. Standardisation: Fixing Norms and interpretation.

#### **Step-I: Planning the test:**

##### **a. Determining Objectives:**

The first and the most important step in planning achievement tests is to identify the instructional objectives. Each subject has a definite set of instructional objectives. In the subjects of science, social science, and mathematics, the major objectives are categorised into knowledge, understanding, application, and skills, while in languages the major objectives are categorised as knowledge, comprehension, and expression. Knowledge objective is considered as the lower level of objective and the rest are considered as higher-level objectives.

### **b. Analysis of Curriculum and Source Material:**

Beans. K. L. has suggested the following source material, which may be analysed and used:

**Textbooks and Notebooks:** Great skill is required to use this source. The mechanical reproduction of the words of the author should be avoided. Items of the test should be so constructed that they may require originality, an appropriate departure from the wording of the text, and sound judgments.

**Through questions at the end of each chapter:** Generally, textbooks are accompanied by objective tests in supplementary workbook or manuals. These can be relied upon to some extent.

**Lecture Notes:** These assimilate teachers' own experiences and outside readings and provide another source to set test questions

**Class discussion:** Class discussion in which the students as well as the teachers have participated also help as an excellent source. Controversial issues should be avoided.

**Study of Tests:** Study of various standardized tests will help in the construction of items for new tests. General ideas about outlining, content, and form can be obtained from studying the best-published tests.

### **Step-II: Preparing the first draft of the test (Construction of test items)**

a. Item construction: when the objectives of the test have been determined and source materials are analysed, one can start constructing the items. Items may be of many kinds, such as multiple-choice, true-false, alternative response forms, matching form, essay type, etc. Some general principles should however be kept in mind while constructing the items.

Every precaution needs to be taken to ensure that the items are valid, appropriate, and unambiguous. Some suggestions are listed below:

- More than one type of items should be included in the initial draft, so that the test may be interesting as well as representative.
- The number of items in the preliminary draft should be more than that is required in the final draft.
- Items belonging to one type should be presented together
- The items should be phrased. Their content and form should determine the purpose. Words like 'never' 'always' 'positively' 'exclusively' and the like should be avoided.
- There should not be any sequence in responses. Responses should be in a chance order, so that one response may not lead to another.
- No item should be such that it could be responded to by referring to any other item or a group of items.
- No item should be chosen that its answer is obvious by the phraseology or content.
- Items may be put in ascending or descending order of difficulty. It means that simpler items should be at the beginning and more difficult items at the end.
- The wording of items should be such that the whole content determines the answer, not part of it.
- It is better if the terms are not weighted. Each item should carry equal marks.

- There should be more emphasis on learning rather than on memory or recall.

b) Arrangement of items: A rough plan may be made after going through the list of traits or teaching objectives being measured, which may be divided into groups or categories. For example, one category of content, one of the skills and another of application, etc

### **Step-III: Trying out of the test**

a) Administration of the test: After the preparation of the first draft, it is tried on a sample. The sample must have poor, good as well as brilliant students. Conditions of administration should be normal. There should be proper invigilation and supervision. Cheating or faking of response should be checked. The time allowed should be generous. Time for the speed tests should be shorter than power tests.

There should be proper seating, ventilation, and water arrangement. Instructions should be clear and unambiguous.

b) Scoring: The scoring procedure should be simple and rational. One point may be given for every correct item. Answer keys may be prepared beforehand. Scoring can be done using stencils, carbons, punch-board methods, or by computer.

c) Item Analysis: Item analysis is a name given to a variety of statistical techniques designed to analyse individual items on a test after the test has been given to a group of examinees. Some item analysis techniques are highly sophisticated and are useful only to individuals with specialised training. Other techniques are simple to interpret and can be useful to the classroom teacher, both in terms of improving the quality of the test item and identifying instructional problems.

**1. Discrimination Value:** After scoring, the percentage of examinees doing each item correctly, as well as incorrectly is calculated. This will throw light on the discriminative value of an item. The discriminating value may be found statistically by the following method:

All answer-books are marked and put in a sequence of describing marks. On top, would be an answer book with the highest marks and at the bottom with the lowest marks. Take out one-third of answer-books from the top and one-third from the bottom, leaving aside the middle one-third. Now find out for every item, the percentage of pupils doing it correctly in the upper and the lower group respectively. Then find out discriminative value by the following formula:

D (Discriminating Value) =

Where:

P1= Percentage of students doing the item correctly in the upper group

P2= Percentage of students doing the item correctly in the lower group

Q1= Percentage of students not doing the item incorrectly in the upper group

Q2= Percentage of students not doing the item incorrectly in the lower group

N1= Number of students in the upper group

N2= Number of students in the lower group

If the discriminating value is more than 1.96, the item is discriminating. A test item is said to 'discriminate' if a larger proportion of students from the upper group correctly answered the item than in the lower group.

**2. Difficulty Value:** Another component of item analysis is difficulty value. The difficulty of an item refers to the proportion of students who answered the item correctly. For example, if 20 out of 25 students correctly answered, a particular test item, the difficulty value is  $20/25 \times 100 = 80\%$  or 80

The range of item difficulty is from .00, indicating no student taking the exam answered the item correctly, to 1.00, indicating all students answered the items correctly.

#### **Step IV: Final Drafting-Preparation of the Final Test**

After scoring an item analysis of answer-books, the final test may be constructed. For it, the good discriminating value may be taken, and other items may be eliminated. Needed directions are given. Time is decided based on administration. Questions or items for practice may be devised.

After doing all this, a second administration of the test is done. Then the average percentage may be calculated. Standard deviation, range, and quartile deviation of scores may be calculated:

Reliability and validity may be calculated by using statistical techniques made for these terms.

#### **Step V: Standardization and Interpretation**

Norms may be calculated. There are many types of norms like age norms, grade norms, etc. Rural and urban norms also may be calculated. Average performance for various groups will help the comparison of scores. For this purpose of comparison, raw scores may be converted into derived scores, such as T scores, z Scores, Hull scores, Stanine scores, etc

The procedure adopted must be suitable for the test, so that the interpretation of the test may be easy.

## **II. Diagnostic Tests**

A diagnostic test is a test designed to locate specific learning difficulties in the case of a specific individual, at a specific stage of learning, so that specific effort could be made to overcome those deficiencies.

### **Construction of Diagnostic Test**

A diagnostic test may be either standardized or teacher made. But the teacher made tests are economical and more effective because each teacher can frame it according to the specific needs of students.

Following are the stages of preparing a diagnostic test

1. Planning
2. Writing items
3. Assembling the test

4. Providing directions
5. Preparing the scoring key and marking scheme
6. Reviewing the test

**1. Planning:** The unit in which a diagnostic test is based, requires a detailed exhaustive content analysis. It should be broken into learning points without omitting any point. The diagnostic procedure should be based on the premise that mastery of the total process cannot be stronger than that of the weakest link in the chain of related concepts and skills. So, every concept, skill of the learning point of the unit should be treated equally at the time of constructing the test.

All the learning points of the unit, have to be covered in an unbroken sequence. Each learning point should have an adequate number of questions to help identify the area of weakness.

**2. Writing items:** All the forms of questions i.e., Essay type, short answer, and objective type, can be used for testing different learning points. However, for diagnostic purposes, short answer questions, involving one or two steps are used widely.

The questions should be clubbed around the learning points, even when they are of different forms. The learning points should be arranged sequentially from simple to complex, which ensures that students do not have to change their mindsets very frequently.

The questions should be written in simple and clear language. The scope of the expected answer should be clear to the students.

**3. Assembling the Test:** Preparation of blueprint may altogether be avoided. No rigid time need to be specified, though, for the administrative case, a time limit may be set.

**4. Providing directions and preparing a scoring key:** A set of instructions, clear and precise, is drafted. It should also be provided with a scoring key and marking scheme.

**5. Reviewing the Test:** Before printing the test, it should be carefully edited and reviewed. This ensures that any inadvertent errors are eliminated.

#### **Administration of the test**

Following steps should be followed while administering the test

- Win the confidence of the students and reassure them that test is to help them in the improvement of their learning
- Administer in a relaxed and secured environment
- Students should not consult one another during the test
- If any student is not able to follow something, he/she should be allowed to seek clarification from the teacher
- The teacher should ensure that the students attempt all questions of the test
- Schedule should not be enforced.

Computers can be used for diagnostic testing in education. Several commercial test publishers have developed programmes for interpreting and scoring available diagnostic tests and for combining test scores and other data in the prescriptive formulation of individualised instructional programmes.

1. Planning the test: Objectives and curriculum analysis
2. Preparation of the first draft of the test: Item selection
3. Trying out of the first draft of the test: Test administration, Scoring, Finding out Reliability, Validity, and Item Analysis
4. Final drafting of the tests: Administration, Application, and Fixing scoring procedures
5. Standardisation: Fixing Norms and interpretation

### **Check Your Progress - 4**

Arrange the steps of preparation of achievement test in proper sequence

1. Standardisation: Fixing Norms and interpretation.
2. Preparation of the first draft of the test: Item selection.
3. Trying out of the first draft of the test: Test administration, Scoring, Finding out Reliability, Validity, and Item Analysis.
4. Planning the test: Objectives and curriculum analysis.
5. Final drafting of the tests: Administration, Application, and Fixing scoring procedures.

#### **2.1.4. Let us Summarise**

- Project is defined as the problematic act carried out to completion in the most natural setting. The act or activity involved is helpful in the solution of the problem. These activities may reveal how students work and how they convert learning into practice. Project-based assessments include the overall vantage point of subject correlation with industry applications.
- The assessment of performance-based learning aims to measure the theoretical knowledge and skills as tested in traditional testing procedures. Apart from this, it focuses on the ability of students to apply the learned knowledge and skills in practical situations. This makes the assessment more authentic and meaningful for students. They understand the value of what they are learning.
- The main objective of an assignment is to evaluate whether the subject matter is understood by the students. Assignments are created as a part of the overall grade for the semester. Assignments are part of the coursework and have a percentage of the grade based on them. Assignments are designed in such a way that the evaluators ask questions or give a topic on which students have to use their understanding of the subject to put on paper exactly what they have understood of the subject. This is a great way to assess the progress of a student in a subject during the course of a semester.
- There may be many kinds of assignments relevant to assessing writing, practical work including laboratory work, reflective assignments, performance, and oral work. The assignment could be assessed either in the formative or summative assessment mode. It opens up opportunities for self and peer evaluation.
- Two types of tests are very important for a classroom teacher. One is the achievement tests and diagnostic tests. Though these are seen as two different types of tests, it is not proper to draw a hard and fast partition between these two types. General achievement tests, as is clear from its name, measure achievement from any area of knowledge. These tests provide one single score as an index of achievement for one particular area. The diagnostic test indicates the weakness or strength of several areas.

### **2.1.5. Answer to ‘Check Your Progress - 1, 2, 3 and 4’**

#### **Check Your Progress - 1**

1 and 5-False  
2,3,4-True

#### **Check Your Progress - 2**

3 and 5

#### **Check Your Progress - 3**

1-a,2- d,3-a ,4-d ,5- a

#### **Check Your Progress - 4**

4-2-3-5-1

### **2.1.6. Unit end Exercises**

1. Explain the process of assessment of projects
2. Explain the major aspects of performance-based assessments
3. Analyse the procedure and merits of assessment of assignments
4. Explain the procedure of the construction of achievement and diagnostic tests.

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## **Block 2 : Assessment Procedure**

### **Unit 2 : Observation of Learning by Teacher and Peers**

#### **Unit Structure**

- 2.2.1. Learning Objectives
- 2.2.2. Introduction
- 2.2.3. Learning Points and Learning Activities
  - 2.2.3.1. Observation of learning by Teachers
    - Check Your Progress - 1
  - 2.2.3.2. Observation of learning by Peers
    - Check Your Progress - 2
- 2.2.4. Let us Summarise
- 2.2.5. Answers to 'Check Your Progress - 1, 2, 3 and 4'
- 2.2.6. Unit end Exercises
- 2.2.7. References

#### **2.2.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Explain the procedure and merits of observation of learning by teachers; and
- Analyse the procedure and merits of observation of learning by peers.

#### **2.2.2. Introduction**

You might have experienced the advantages of observation as a tool of assessment throughout your teaching career. It reveals number of aspects. You may find frustration and boredom among students when the content is higher than the child's level. This gives you a clue that the whole-group activities need to be changed. This is a point of understanding of the exact needs of students. A teacher may find that most of the students are ready for double digit multiplication, but a few are not ready for double digit subtraction and multiplication. The teacher needs to extensive work with those who are not ready for the task. The teacher cannot remediate the whole class since the students who are ready will be bored. At the same time the teacher realises the new concept cannot be taught without prerequisite skills. It is time for small-group, needs-based instruction. With the few the teacher has to give remedial instruction to build the requisite base and give challenging work in what has been learnt for the larger group. Thus, observation of learning by teacher has number of advantages and it requires a systematic planning and procedure. Peer observation of learning also contributes for the learning of co-learners. The feedback of peers will have more acceptance than of teachers since they can observe from the perspective of their co-learners. Observation of both teachers and peers will contribute in the learning situation. Let us understand in this unit the nature, merits and points to be considered while teachers and peers observe learning in order to give feedback for students and peers.

#### **2.2.3. Learning Points and Learning Activities**

##### **2.2.3.1. Observation of learning by teachers**

##### **Meaning of Observation**

Observation is the action or process of carefully watching someone or something or the act of process of perceiving something such as a phenomenon, often by means of an instrument, and making a record of the resulting information. In general, observation refers to

the act of watching or noticing and it has number of benefits. Observation may be carried out by different persons in the context of learning. Each situation has its own merits in relation to the learning of students.

### **Need for Observation of learning by teachers**

Observation of learning of students are helpful in many ways. Just because something is taught, the teacher cannot be sure that the students have grasped it. Each school day offers numerous opportunities to assess student understanding and progress. Most of the times students give proper answers not with real comprehension of facts but just by rote memorization. The teacher can identify this with focused observation. This can be tested with further probing questions and such students can be helped for proper understanding.

It is the prime responsibility of teachers to have a thorough understanding about the cognitive, emotional and social development of students. Since a classroom is filled with students coming from different parental backgrounds, it makes sense to a teacher to be aware of the learning capabilities of different students. Here, observation is the key skill that every teacher should possess to become an effective tutor.

An observant teacher can make proper judgments about the learning of students. Information gathered by observing students working alone, in groups or during whole-group instruction gives valuable information about students' progress, understandings, strengths and challenges, cooperation, study habits and attitude. Continuous observation of learning will prepare the teacher for this process. There are number of other reasons for teacher observing learning of students.

- Confirm the appropriateness of learning situation
- To see whether students are on the right track
- To ensure that students have understood the procedure of learning
- To find out how students can be facilitated for further learning
- To find out whether any intervention is required
- To know the reference point of intervention
- To gauge the level of learning of students
- To identify proper assessment procedures
- To plan further learning
- To identify ways to motivate students for learning

### **Recording Observations by Teachers**

There are number of ways to record observations. The teacher can use sticky notes to jot down the thoughts and then post them on a chart with students' names, prepare a checklist of things that needs to be taken care of, or keep a folder with records of observations written on self-stick labels or sheets of paper.

For example, if a teacher is concerned about the extensive reading habits of students. The teacher can observe the students as he/she teaches, ask questions that ensure their reading beyond class texts, observe the books that they borrow from the library, informally observe the books in their bags etc. These observational data will give better ideas for a teacher how to help the child improve her study habits or how to adapt your instruction to involve her more.

The observation data should be supplemented with other assessment results. The teacher can collect information from each student's daily experiences and interactions. Observation data should be supplemented with data from tests. The teacher needs to observe carefully the process children go through to master skills, concepts or content. The teacher can ask students to think aloud so that she/he can probe their understanding of content and strategies. It is very important that the teacher keeps a record of the observations to promote learning.

### **Strategies in the process of Observation**

Teachers can use several strategies in the process of observation. Observation are best performed in a child's natural setting especially as they are learning something. Below are some of the strategies a teacher can use while observing learning:

- Specify what exactly you want to observe in learning situation
- Define target behaviours in observable terms
- Define the criteria to be used in judging occurrence or non-occurrence
- Select not more than two targets to observe at one time
- Keep coding on data sheet in a simple way
- Know specifically what the observation is to reveal. For example, you are interested to know how students learn social behaviour i.e., sharing.

**Recording Events:** Teacher can maintain a continuous, narrative record of the child's learning behaviour and responses or a detailed recording of a single event.

**Time Sampling:** This is also called interval sampling. This is used when behaviour occurs frequently and the teacher is interested in the frequency of occurrence. To develop a more complete picture of child's behaviour, teacher may decide to observe the child using time sampling approach. For this, the teacher needs to develop a form for recording observations and select the times the behaviour needs to be observed. At the end of the observation period, the percentage of time that the child has spent in the behaviours of interests can be determined.

### **Check lists and rating scales**

These can be used to determine the presence of absence of a learning behaviour. Children are observed in different situation to understand their learning behaviours.

### **Check Your Progress - 1**

Identify the statements that depict the need for observation of learning by the teacher

1. To see whether any child cannot learn what is expected.
2. To Confirm the appropriateness of learning situation.
3. To see whether students are on the right track.
4. To take action if the child does not exhibit proper behaviour.
5. To ensure that students have understood the procedure of learning.
6. To find out how students can be facilitated for further learning.
7. To find out whether any intervention is required.

### **2.2.3.2. Observation of learning by Peers**

#### **Peer Observation**

Peer observations are when people are observed by someone at the same level. In the context of teacher education setting it is usually a fellow teacher rather than a senior at the

staff. The person who observed then gives some feedback, based on observation task form they have been given or chosen.

Although peer observations are no substitute for regular observations by people with more experience and knowledge, being observed by peers does have some advantages, sometimes even more than the formal ones.

### **Advantages of peer observations**

- It can save management time: The faculty of the department can do much more important tasks when peers observe the class. But, one need to be very careful to ensure that the peers are well trained to do this job, and the students who are observed get the maximum benefit out of this type of observations.
- It is good for teacher training and other professional courses: Those who are in the process of getting trained to become teachers need continuous feedback about their learning in order to know how and where they need to correct themselves. They can accept the feedback given by peers in a more welcoming way than their teachers and heads and peer observation become very handy in this situation.
- There is ample scope to get variety of feedback: since many peers can observe one's learning simultaneously more ideas for improvement is possible. Though all of them observe with the same criteria, there is scope for getting different insights for growth
- Both the person being observed and the person observing learn from the activity: This is the biggest advantage of peer observation. Those who observe get insights into the way of learning by observing others way of doing it. They come to know the merits and limitations of learning the way the other one does and can avoid what is not acceptable.
- It can boost one's confidence: The peers who observe definitely give positive strokes to the one observed about his task. This will boost his/her self confidence and motivates to learn further.

### **Limitations:**

- Some may lose confidence while observing someone doing better than them.
- Some may feel over confident when they observe some one doing much below the level of expectation.
- Peers need to be trained well before they observe others' learning
- It may need more time for the management to develop good observers
- Sometimes the feedback may not be very valuable
- Peers may think that it is not their job but they are forced to do it.

### **Check Your Progress - 2**

Identify any one activity and involve students as observers. Prepare an observation schedule with the components of what students need to observe and make any 4 students of the class observe the activity based on the criteria and make them give feedback for their peers.

#### **2.2.4. Let us Summarise**

- Observation is the action or process of carefully watching someone or something or the act of process of perceiving something such as a phenomenon, often by means of an instrument, and making a record of the resulting information.
- Observation of learning of students are helpful in many ways.

- An observant teacher can make proper judgments about the learning of students. Information gathered by observing students working alone, in groups or during whole-group instruction gives valuable information about students' progress, understandings, strengths and challenges, cooperation, study habits and attitude. Continuous observation of learning will prepare the teacher for this process.
- Peer observations are when people are observed by someone at the same level. Although peer observations are no substitute for regular observations by people with more experience and knowledge, being observed by peers does have some advantages, sometimes even more than the formal ones.

### **2.2.5. Answer to 'Check Your Progress - 1 and 2'**

#### **Check Your Progress - 1**

All except 1 and 4

#### **Check Your Progress - 2**

Share your experience with your colleagues

### **2.2.6. Unit end Exercises**

1. Explain the strategies and merits of observation of learning by teachers.
2. Explain the meaning and advantages of peer observation of learning.

### **2.2.7. References**

1. Durgesh Nandini & Vipasha Choudhary: Assessment of Learning; Paragon International Publishers, New Delhi 2018
2. Sukhwinder Singh Cheema: Assessment for Learning; Twenty-first Century Publications, Patiala 2018
3. Jahitha Begum and Lokanadha Reddy: Assessment for Learning; Rakhi Prakashan Pvt Ltd. 2016
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6. Ramakrishan, Mrunalini T, Sunitha D, Shanker P: Assessment for Learning; Neelkamal Publications Private Limited; New Delhi, 2019
7. Inder Dev Singh Nandra: Assessment for Learning; Twenty-first Century Publications, Patiala 2016
8. Vijay Kumar Sharma: Assessment for Learning; Laxmi Book Depot, Haryana

## **Block 2 : Assessment Procedure**

### **Unit 3 : Self-Assessment and Peer Assessment**

#### **Unit Structure**

- 2.3.1. Learning Objectives
- 2.3.2. Introduction
- 2.3.3. Learning Points and Learning Activities
  - 2.3.3.1. Meaning, nature and advantages of Self-Assessment  
Check Your Progress - 1
  - 2.3.3.2. Meaning, nature and advantages of Peer Assessment  
Check Your Progress - 2
- 2.3.4. Let us Summarise
- 2.3.5. Answers to ‘Check Your Progress - 1, 2, 3 and 4’
- 2.3.6. Unit end Exercises
- 2.3.7. References

#### **2.3.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Explain the nature and merits of Self-assessment; and
- Explain the nature and merits peer assessment.

#### **2.3.2. Introduction**

Assessment is a universal process. Every one has assessed someone and assessed by many in multiple situation. We are involved in the process of assessment every day. It may happen deliberately or casually and this is an inevitable activity of life. Many of the times people around us give suggestions, motivation and encourage us to work further. But there are times when we ourselves assess our activities and try to realise what is good and bad and try to improve ourselves. Most of the times we have said, ‘my writing needs to be improved’, ‘I should improve my communication skills’. This has been possible because we have put ourselves in the assessment setting. This is known as self-assessment. There are situations when some of my classmates, friends assess my activity. That is known as peer assessment. Both have positive results and we need to train our students in these activities. Hence, let us understand comprehensively about these two activities, namely, self-evaluation and peer evaluation.

#### **2.3.3. Learning Points and Learning Activities**

##### **2.3.3.1. Meaning, nature and advantages of Self-Assessment**

**Self-assessment** is a valuable skill for students to learn. It is highly valuable to give students opportunities to assess their efforts and attitudes regularly. Students can do this through questionnaires, journaling, and checklists. **EXAMPLE:** Following a cooperative learning activity, students could fill out a questionnaire asking them to rate their performance on statements, such as "I helped my group," "My group helped me," "My group shared," and "I took turns with the others in my group." They could write in their journal about the most important thing they learned from the activity. Students could also create a list of skills they "can-do".

Self-assessment is a process of formative assessment during which students reflect on and evaluate the quality of their work and their learning, judge the degree to which they reflect explicitly stated goals or criteria, identify strengths and weaknesses in their work, and revise accordingly.

Once learners are able to use the assessment criteria appropriately and can actively contribute to peer-assessment activities, the next step is to engage them in self-assessment tasks. Self-assessment is a very powerful teaching tool and crucial to the Assessment for Learning process. Once learners can engage in peer-assessment activities, they will be more able to apply these new skills to undertaking 'objective' assessment of their own work. We all know it is easy to find fault in other people's work, but it is a far more challenging process to judge one's own work. Once learners can assess their own work and their current knowledge base, they will be able to identify the gap in their own learning; this will aid learning and promote progress and contribute to the self-management of learning. Teachers need to provide opportunities for learners to reflect on their own work ensure they provide individuals with the necessary support so that they are able to acknowledge shortcomings in their own work support learners through the self-assessment process so that strengths in their work are fully recognised and weaknesses are not exaggerated to the point that they damage learners' self-esteem.

Teachers may wish to present a series of anonymous learners' work, possibly from a previous cohort, so that they can review and evaluate work that does and does not meet the assessment criteria. This will clarify what has been required in a task/activity/assignment and lessons learnt can be applied to their own work.

According to Boud (1995), all assessment including self-assessment comprises two main elements: making decisions about the standards of performance expected and then making judgments about the quality of the performance in relation to these standards. Students should be involved in establishing the criteria for judgment as well as in evaluating their own work . Regardless of the ways in which the criteria are set up, students need to be absolutely clear about the standards of work to which they are aspiring, and if possible, have practice in thinking about sample work in relation to these criteria.

### **Need for Self-Assessment**

Self-assessment builds on a natural tendency to check out the progress of one's own learning. Further learning is only possible after the recognition of what needs to be learned.

If a student can identify his/her learning progress, this may motivate further learning.

Self-assessment

- encourages reflection on one's own learning.
- promotes learner responsibility and independence.
- encourages student ownership of the learning
- shift the focus from something imposed by someone else to a potential partnership.
- emphasizes the formative aspects of assessment.
- encourages a focus on process.
- can accommodate diversity of learners' readiness, experience and backgrounds.
- align well with the shift in the higher education literature from a focus on teacher performance to an emphasis on student learning.

### **Check Your Progress - 1**

Devise a self-assessment tool for practicing one teaching skill, use the same after teaching and record your observations

#### **2.3.3.2. Meaning, Nature and Advantages of Peer Assessment**

Peer assessment is assessment of students by other students, both formative reviews to provide feedback and summative grading. Peer assessment is one form of innovative assessment, which aims to improve the quality of learning and empower learners, where traditional forms can by-pass learners' needs. It can include student involvement not only in the final judgments made of student work but also in the prior setting of criteria and the selection of evidence of achievement.

Peer assessment can be considered part of peer tutoring. As with other forms of peer tutoring, there can be advantages for both tutor and the tutee describes the potential advantages of peer tutoring, including the development of the skills of evaluating and justifying and using discipline knowledge.

Self and peer assessment are often combined or considered together. They have many potential advantages in common. Peer assessment can help self-assessment. By judging the work of others, students gain insight into their own performance. Peer and self assessments help students develop the ability to make judgments, a necessary skill for study and professional life

There are many variants of peer assessment, but essentially it involves students providing feedback to other students on the quality of their work. In some instances, the practice of peer feedback will include the assigning of a grade, but this is widely recognized to be a process that is troubled with difficulties. "Peer assessment requires students to provide either feedback or grades (or both) to their peers on a product or a performance, based on the criteria of excellence for that product or event which students may have been involved in determining". Peer learning builds on a process that is part of our development from the earliest years of life.

#### **Advantages of Peer Assessment**

- Peer assessment can encourage collaborative learning through interchange about what constitutes good work.
- If the course wants to promote peer learning and collaboration in other ways, then the assessment tasks need to align with this. It is also important to recognize the extra work that peer learning activities may require from students through the assessment.
- Students can help each other to make sense of the gaps in their learning and understanding and to get a more sophisticated grasp of the learning process.
- The conversation around the assessment process is enhanced. Research evidence indicates that peer assessment can be used very effectively in the development of students' writing skills.
- peers can get a wider range of ideas about their work to promote development and improvement.
- Students engaged in commentary on the work of others can heighten their own capacity for judgment and making intellectual choices.
- Students receiving feedback from their peers can get a wider range of ideas about their work to promote development and improvement.

- Peer evaluation helps to lessen the power imbalance between teachers and students and can enhance the students' status in the learning process.
- The focus of peer feedback can be on process, encouraging students to clarify, review and edit their ideas.
- It is possible to give immediate feedback, so formative learning can be enhanced.
- Peer assessment processes can help students learn how to receive and give feedback which is an important part of most work contexts.
- Peer assessment aligns with the notion that an important part of the learning process is gradually understanding and articulating the values and standards of a "community of practice".
- Gives a sense of ownership of the assessment process, improving motivation;
- Encouraging students to take responsibility for their own learning, developing them as autonomous learners.
- Treating assessment as part of learning, so that mistakes are considered as opportunities rather than failures;
- Practising the transferable skills needed for life-long learning, especially evaluation skills;
- Using external evaluation to provide a model for internal self-assessment of a student's own learning(metacognition)
- Encouraging deep rather than surface learning;

### **Research results related to Peer and Self-assessment**

There are number of research findings related to peer and self-assessment. Some of the findings are given below:

- These modes of authentic assessment promote learning as they require the active engagement of students
- The core function of self- and peer assessment is for students to learn to be judges of their work as well as that of others
- Through this process, there is a promotion of lifelong learning
- These abilities allow students to make judgments and decisions during situations they may encounter in the future
- These methods promote independence, personal responsibility, and critical thinking. Peer assessment also teaches learners how to handle criticism and be responsible when judging others work
- Another benefit of peer assessment is that the competencies learned, provide a foundation for performing self-assessment
- A central value of self-assessment is the development of metacognition. Metacognition is described as the ability of learners to gain knowledge about their learning and is identified as a significant factor affecting learning.
- Additionally, self-assessment can empower students as it encourages self-monitoring. However, the power given to learners must focus on sustaining self-reflective abilities. researchers suggested that the focus of self- and peer assessment should be on comments rather than grades
- Some studies gathered views from students and found that assigning grades to their peers was a negative experience
- Students said they didn't like showing their work to peers, they lacked confidence in evaluating others work, and doubts occurred as to the fairness and validity of the marks

- Self-assessment promotes better learning under two conditions. One is when learners assess their work before seeing feedback from a tutor or peers. The other method allows learners to view tutor feedback (without a grade) prior to self-assessing their work.
- Apart from assigning marks, students stated that both self- and peer assessment provided a positive experience 7-
- Peer assessment is a positive experience and facilitated learning

### **Check Your Progress - 2**

Classify the statements under the headings, Self-Assessment(SA) and Peer Assessment(PA)

1. Encourages reflection on one's own learning.
2. Encourages collaborative learning
3. Promotes learner responsibility and independence.
4. Possible to give immediate feedback, so formative learning can be enhanced
5. Encourages student ownership of the learning
6. Shifts the focus from something imposed by someone else to a potential partnership.
7. Can help students learn how to receive and give feedback

### **2.3.4. Let us Summarise**

- Self-assessment is a process of formative assessment during which students reflect on and evaluate the quality of their work and their learning, judge the degree to which they reflect explicitly stated goals or criteria, identify strengths and weaknesses in their work, and revise accordingly.
- All assessment including self-assessment comprises two main elements: making decisions about the standards of performance expected and then making judgments about the quality of the performance in relation to these standards. Students should be involved in establishing the criteria for judgment as well as in evaluating their own work.
- Peer assessment is assessment of students by other students, both formative reviews to provide feedback and summative grading. Peer assessment is one form of innovative assessment, which aims to improve the quality of learning and empower learners, where traditional forms can by-pass learners' needs. It can include student involvement not only in the final judgments made of student work but also in the prior setting of criteria and the selection of evidence of achievement.

### **2.3.5. Answer to 'Check Your Progress - 1 and 2'**

#### **Check Your Progress - 1**

Share your experience with your colleagues and list the merits and limitations of self-assessment process

#### **Check Your Progress - 2**

1,3,5,6 – SA

2,4,7-PA

### **2.3.6. Unit end Exercises**

Explain the process and advantages of self-assessment and peer-assessment.

### **2.3.7. References**

1. Durgesh Nandini & Vipasha Choudhary: Assessment of Learning; Paragon International Publishers, New Delhi 2018
2. Sukhwinder Singh Cheema: Assessment for Learning; Twenty-first Century Publications, Patiala 2018
3. Jahitha Begum and Lokanadha Reddy: Assessment for Learning; Rakhi Prakashan Pvt Ltd. 2016
4. Deepti Aggarwal: Assessment for Learning; Twenty-first Century Publications, Patiala 2018
5. Bhatnagar A B, & Anurag Bhatnagar; Assessment for Learning; R Lall Book Depot, Meerut 2017
6. Ramakrishan, Mrunalini T, Sunitha D, Shanker P: Assessment for Learning; Neelkamal Publications Private Limited; New Delhi, 2019
7. Inder Dev Singh Nandra: Assessment for Learning; Twenty-first Century Publications, Patiala 2016
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## **Block 2 : Assessment Procedure**

### **Unit 4 : Rubric Based Assessment**

#### **Unit Structure**

- 2.4.1. Learning Objectives
- 2.4.2. Introduction
- 2.4.3. Learning Points and Learning Activities
  - 2.4.3.1. Meaning, and advantages of Rubrics
    - Check Your Progress - 1
  - 2.4.3.2. How to construct Rubrics
    - Check Your Progress - 2
- 2.4.4. Let us Summarise
- 2.4.5. Answers to ‘Check Your Progress – 1 and 2’
- 2.4.6. Unit end Exercises
- 2.4.7. References

#### **2.3.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Explain the Concept and uses of Rubrics; and
- Able to construct Rubrics for different contexts.

#### **2.3.2. Introduction**

Most of the time we, teachers assign marks or scores superficially to students' answers. We will not be keen on designing a set of criteria to assess the answers of students. That is why we will not be in a position to give feedback on specific lines for students to learn better or to avoid undesired aspects. There are some tools which specifically tell us the criteria on which any specific learning can be precisely assessed and allows to give fruitful, clear and meaningful feedback. Rubrics is one such tool with which a teacher can assess more precisely than the regular tools and give specific feedback for students. Let us learn in this Unit, the meaning, advantages and the procedure of constructing rubrics to assess expected learning outcomes.

#### **2.4.3. Learning Points and Learning Activities**

##### **2.4.3.1. Meaning, and advantages of Rubrics**

A rubric is a tool to help a teacher compare the achievement of their students to the desired outcomes for the instructional unit. The basic idea here is that student performance is compared to a standard of achievement rather than to other students.

A rubric is an assessment tool that clearly indicates achievement criteria across all the components of any kind of student work, from written to oral to visual. It can be used for marking assignments, class participation, or overall grades. There are two types of rubrics: holistic and analytical.

A rubric for assessment, usually in the form of a matrix or grid, is a tool used to interpret and grade students' work against criteria and standards. Rubrics are sometimes called "criteria sheets", "grading schemes", or "scoring guides". Rubrics can be designed for any content domain.

### **Advantages:**

- Rubric-based assessment provides the teacher and student with a tool for a conducting meaningful, criterion-referenced assessment. Such assessment provides the learner with a clear picture of their learning and of areas for potential growth.
- Rubrics help to limit teacher subjectivity by encouraging thoughtful representation of the learning goals for the lesson or unit in advance of the instruction.
- Good for assessing project-based learning: Project-based learning is often multifaceted with multiple assignments that lead up to a culminating product or performance. Rubrics can be used to assess the intermediate stages of project-based learning to help students stay focused. Rubrics can also help instructors to keep track of the development and progress of their students.
- Common understanding of the learning goals is possible through rubrics. Ideally rubrics are shared with the students at the outset of the learning situation. Articulating the desired outcomes can bring better focus to the instruction and can be a concrete way of focusing student attention on the learning to be done. Students who are following a rubric know from the outset of the experience what levels of achievement are expected in order to attain the highest possible levels in each area of the instruction.
- Rubrics is a way for teacher to communicate relative importance of instructional components. A rubric is an excellent way for a teacher to communicate, in quantitative terms, the relative importance of different aspects of learning. The teacher can identify all the areas of the learning that are going to be assessed and assign equal values to each area or can weight the categories so that the most important aspects of learning experience receive the most emphasis in terms of total points awarded.
- A rubric makes explicit a range of assessment criteria and expected performance standards. Assessors evaluate a student's performance against all of these, rather than assigning a single subjective score. handed out to students during an assessment task briefing makes them aware of all expectations related to the assessment task, and helps them evaluate their own work as it progresses
- Rubrics help teachers apply consistent standards when assessing qualitative tasks, and promotes consistency in shared marking.
- Rubrics can be used to structure discussions with students about different levels of performance on an assessment task. It can be used during peer assessment and self-assessment, to generate and justify assessments.
- Assessment rubrics provide a framework that clarifies assessment requirements and standards of performance for different grades. In this, they support assessment as learning; students can see what is important and where to focus their learning efforts.
- Rubrics enable very clear and consistent communication with students about assessment requirements and about how different levels of performance earn different grades. They allow assessors to give very specific feedback to students on their performance.

### **Check Your Progress - 1**

1. A rubric is a tool to help a teacher compare the achievement of their students to
  - a) desired outcomes
  - b) learning experiences
  - c) learning activities
  - d) other students

2. A rubric will be usually in the form of

- a) Matrix
- b) Questionnaire
- c) List
- d) Table

3. A rubric indicates achievement

- a) Results
- b) Criteria
- c) Goals
- d) Standards

### **2.3.3.2. How to construct Rubrics**

The following steps need to be followed in the process of construction of rubrics

#### **Step 1: Define Your Goal**

Before you can create a rubric, you need to decide the type of rubric you'd like to use, and that will largely be determined by your goals for the assessment.

Ask yourself the following questions:

1. How detailed do I want my feedback to be?
2. How will I break down my expectations for this project?
3. Are all of the tasks equally important?
4. How do I want to assess performance?
5. What standards must the students hit in order to achieve acceptable or exceptional performance?
6. Do I want to give one final grade on the project or a cluster of smaller grades based on several criteria?
7. Am I grading based on the work or on participation? Am I grading on both?

Once you've figured out how detailed you'd like the rubric to be and the goals you are trying to reach, you can choose a type of rubric.

#### **Step 2: Choose a Rubric Type**

Although there are many variations of rubrics, it can be helpful to at least have a standard set to help you decide where to start. Here are two that are widely used in teaching

**Analytic Rubric:** This is the standard grid rubric that many teachers routinely use to assess students' work. This is the optimal rubric for providing clear, detailed feedback.

Analytic rubrics have different levels of achievement or performance criteria. Each level for each criterion has a precise descriptor of what students should demonstrate that they know and can do, in as observable and measurable terms as possible. The criteria are linked to outcomes for project/course. See the example below.

With an analytic rubric, criteria for the students' work are listed in the left column and performance levels are listed across the top. The squares inside the grid will typically contain the specs for each level. An example of an analytic rubric to assess writing skill is given below:

| <b>Writing Rubric</b> |   |  |  |   |       |
|-----------------------|---|--|--|---|-------|
| Date:                 | Rater:  | Course:  |  | Student/Students:   |       |
| Criteria              | Unacceptable  | Acceptable   | Target   | Exemplary   | Score |
| Logic & Organisation  | Does not develop ideas logically, uneven and ineffective overall organisation, unclear introduction or conclusion | Ideas developed are not necessarily connected, some overall organisation, some ideas seem illogical and unconnected, unfocused introduction or conclusion. | Develops unified and logical ideas, within paragraphs, with adequate transitions; clear overall organisation; good introduction and conclusion | Develops ideas logically, with paragraphs and connects them with effective transitions. Clear and specific introduction and conclusion. |       |
| Language              | Employs words that are unclear, sentence structures inadequate for quality, errors are seriously distracting      | Word forms and Sentence structure are adequate to convey meaning. Errors cause noticeable distraction.   | Word forms are correct, sentence structure is effective, presence of a few errors not distracting.   | Employs words with fluency, develops concise standard sentences, balances a variety of sentence structures effectively.                 |       |
| Spelling & Grammar    | Writing contains numerous errors in spelling and grammar which interfere with comprehension                       | Frequent errors in spelling and grammar  | Minor errors exist but writing follows normal conventions of spelling and grammar and has been carefully proof read.                           | Writing is free from spelling and grammar errors  |       |
| Development of Ideas  | Most ideas unsupported, lacks reasoning   | Ideas are presented in general terms without support, need clarification, lacks reasoning  | Most of the ideas are supported by examples, references and details.   | Explores ideas vigorously, supports points fully using examples, references and supportive evidences.                                   |       |
| Purpose               | Purpose and focus of writing not clear  | Decision about focus, organisation, style, and content interfere with the purpose of writing   | Writer has made good decisions about focus, organisation, style and content to achieve the purpose of writing.                                 | Decision about focus, organisation, style, and content fully elucidate the purpose of writing.  |       |

A rubric to assess writing might contain, criteria like “logic and organization, language, spelling and grammar, development to of ideas and purpose” and may contain performance levels like "(4) Exemplary (3) Target, (2) Acceptable and (1) Unacceptable." The performance levels are typically given percentage points or letter grades and a final grade is typically calculated at the end.

An analytic grading rubric can be more complicated to administer because it has more detail and finer gradations of performance. An advantage, however, is that it is a more precise way of marking because you can mark each criterion independently and have different performance criteria for each performance level.

**Holistic Rubric:** This is the type of rubric that is much easier to create, but much more difficult to use accurately. Typically, a teacher provides a series of letter grades or a range of numbers (1-4 or 1-6, for example) and then assigns expectations for each of those scores. When grading, the teacher matches the student's work in its entirety to a single description on the scale. This is useful for grading multiple essays, but it does not leave room for detailed feedback on student work.

Holistic rubrics either put all the criteria descriptions together in one box for each performance level, as illustrated below or just list the criteria, each with a rating scale of, say, 1 to 4.

| <b>Holistic Rubric on Science Experiment</b>  |               |
|---|---------------|
| <b>Name of the student:</b>   |               |
| <b>Topic: Class:</b>  | <b>Date:</b>  |
| <b>Criteria</b>   | <b>Points</b> |
| The students<br>Make accurate predictions<br>All instructions are carried out successfully<br>All observations are recorded<br>The student has understood the intended concept                  | 5             |
| Predictions are accurate but one or two errors are made.<br>Almost all instructions are carried out<br>Observations recorded but with less precision<br>The student has understood the concept. | 4             |
| Predictions are made but not all are accurate<br>A few instructions are not carried out successfully  | 3             |

|  |   |
|--|---|
| Observations need to be more focused<br>Students' understanding of the concept is superficial  |   |
| Predictions are made but not complete and a few not accurate<br>Readings are not accurate<br>Few instructions are not understood properly and hence errors are found in the process of experiment<br>Concept is not clearly understood | 2 |
| Predictions are neither accurate not complete<br>Readings are not taken<br>Most of the instructions are not understood<br>Concept is not understood  | 1 |

### Step 3: Determine Your Criteria

This is where the learning objectives for your unit or course come into play. Here, you'll need to brainstorm a list of knowledge and skills you would like to assess for the project. Group them according to similarities and get rid of anything that is not absolutely critical. A rubric with too much criteria is difficult to use! Try to stick with 4-7 specific subjects for which you'll be able to create unambiguous, measurable expectations in the performance levels. You'll want to be able to spot the criteria quickly while grading and be able to explain them quickly when instructing your students. In an analytic rubric, the criteria are typically listed along the left column.

### Step 4: Create Your Performance Levels

Once you have determined the broad levels you would like students to demonstrate mastery of, you will need to figure out what type of scores you will assign based on each level of mastery. Most ratings scales include between three and five levels. Some teachers use a combination of numbers and descriptive labels like "(4) Exceptional, (3) Satisfactory, etc." while other teachers simply assign numbers, percentages, letter grades or any combination of the three for each level. You can arrange them from highest to lowest or lowest to highest as long as your levels are organized and easy to understand.

### Step 5: Write Descriptors for Each Level of Your Rubric

This is probably your most difficult step in creating a rubric. Here, you will need to write short statements of your expectations underneath each performance level for every single criterion. The descriptions should be specific and measurable. The language should be parallel to help with student comprehension and the degree to which the standards are met should be explained.

## **Step 6: Revise Your Rubric**

After creating the descriptive language for all of the levels (making sure it is parallel, specific and measurable), you need to go back through and limit your rubric to a single page. Too many parameters will be difficult to assess at once, and may be an ineffective way to assess students' mastery of a specific standard. Consider the effectiveness of the rubric, asking for student understanding and co-teacher feedback before moving forward. Do not be afraid to revise as necessary. It may even be helpful to grade a sample project in order to gauge the effectiveness of your rubric. You can always adjust the rubric if need be before handing it out, but once it's distributed, it will be difficult to retract.

## **Developing rubrics interactively with your students**

You can enhance students' learning experience by involving them in the rubric development process. Either as a class or in small groups, students decide upon criteria for grading the assignment. It would be helpful to provide students with samples of exemplary work so they could identify the criteria with greater ease. In such an activity, the instructor functions as facilitator, guiding the students toward the final goal of a rubric that can be used on their assignment. This activity not only results in a greater learning experience, it also enables students to feel a greater sense of ownership and inclusion in the decision making process.

The challenge is to create descriptors that are as free as possible from subjective words such as "good, better, best" and that instead describe what students should demonstrate, rather than what it is missing or not correct, especially for the lower performance levels.

## **Tips on Using Rubrics Effectively**

- Develop a different rubric for each assignment. Although this takes time in the beginning, you'll find that rubrics can be changed slightly or reused later.
- Give students a copy of the rubric when you assign the performance task. Online, you can create the rubric and make it visible to students in the assignment description.
- Rubrics need to be discussed with students to create a common understanding of expectations.
- For paper submission, require students to attach the rubric to the assignment when they hand it in. Mark each assignment by clicking performance levels.
- When you mark the assignment, circle or highlight the achieved level of performance for each criterion. This happens online with a simple mouse click.
- Include any additional comments that do not fit within the rubric's criteria. Online you can type these into a text field available for that purpose.
- Decide upon a final grade for the assignment based on the rubric. Online, this mark is generated automatically by the system, but you can change it if you wish.
- Return the rubric with the assignment.

## **Rubric for Rubrics**

Rubrics have specific characteristics and they have to be constructed keeping in mind these characteristics. If teachers want to know whether they have created rubrics properly they can assess their rubric using another rubric that is created to assess rubrics. Below you will find an example of a rubric to assess rubrics

**Let us create a rubric to assess rubric**

Following are the steps of creating a rubric

- Step 1: Define Your Goal
- Step 2: Choose a Rubric Type
- Step 3: Determine Your Criteria
- Step 4: Create Your Performance Levels
- Step 5: Write Descriptors for Each Level of Your Rubric
- Step 6: Revise Your Rubric

Let us create a rubric to assess rubric using the above steps

- Step 1: Define goal: TO design a rubric to assess the rubric prepared to assess content
- Step 2: Let us say we would like to create an analytic rubric for this purpose
- Step 3: Let us determine the criteria

The criteria to assess a rubric can be identified as following:

Content coverage, Specification of Criteria, Identification of performance level and Clarity in defining the behaviours at each level

**Step 4: Creating performance levels:** Let us consider three levels of performance for the present rubric, namely ‘strong, medium and low’

**Step 5: Writing descriptors for each level of performance.** This is the operational behaviour of the expected learning outcome. These need to be written in observable behavioural terms. These behaviours are described in the rubric in columns 2, 3 and 4.

| Criteria                  | Strong 5 Points   | Medium 3 Points  | Low 1 Point   |
|---------------------------|---|--|---|
| Content coverage          | <p>Content coverage is comprehensive enough and gives a holistic picture of child’s achievement.</p> <p>The content of the rubric represents the best thinking in the field about what it means to perform well on the skill or product under consideration.</p> <p>The content of the rubric aligns directly with the learning targets it is intended to assess.</p> | <p>Much of the content represents the best thinking in the field, but there are a few places that are questionable Some features don’t align well with the content standards/learning targets it is intended to assess</p> | <p>Content does not seem to be apt and comprehensive</p> <p>Content does not represent current best thinking in the field about what it means to perform well on the skill.</p> <p>The rubric doesn’t seem to align with the content standards/learning targets it is intended to assess.</p> |
| Specification of criteria | <p>Criteria have been identified aptly according to the expected learning outcome</p>   | <p>Criteria are well identified, but does not represent the expected learning in a</p>   | <p>Criteria are not leading to expected learning outcome and do not cover the</p>   |

|   |   |   |  |
|---|---|---|--|
|   | Each criteria results exactly in the expected terminal behaviour<br><br>The criteria comprehensively covers the intended outcome  | comprehensive manner.   | outcome comprehensively  |
| Identification of performance level                       | The number of levels of quality used in the rating scale makes sense. There are enough levels to be able to show student progress, but not so many levels that it is impossible to distinguish among them.<br><br>Naming the levels is appropriate and communicates the intended meaning.     | The number of levels are appropriate but some more levels could be identified to place students at specific levels, which give scope for specific feedback for students   | The number of levels is not appropriate for the learning target being assessed or intended use. There are so many levels it is impossible to reliably distinguish between them, or too few to make important distinctions. |
| Clarity in defining the learning indicators at each level | The number of levels of quality used in the rating scale makes sense and are enough in number. The behaviours at different performance level are described with clarity. Proper action verbs are used to frame learning indicators. The behaviours are defined in observable behaviour terms. | Behaviours defined at different levels are enough but not very clear.<br><br>Action verbs used are not very apt in terms of expected learning behaviour<br>Some of the behaviours are not defined in observable behaviour terms | Neither the levels nor the behaviours under each level are clear.<br><br>Behaviours are not defined aptly, and not presented in observable behaviour terms.  |

### Check Your Progress - 2

Arrange the steps of creating rubrics in proper sequence

- a. Write Descriptors for Each Level of Your Rubric
- b. Determine Your Criteria
- c. Define Your Goal
- d. Revise Your Rubric
- e. Choose a Rubric Type
- f. Create Your Performance Levels

#### **2.4.4. Let us Summarise**

- A rubric is a tool to help a teacher compare the achievement of their students to the desired outcomes for the instructional unit. The basic idea here is that student performance is compared to a standard of achievement rather than to other students.
- A rubric is an assessment tool that indicates achievement criteria across all the components of any kind of student work, from written to oral to visual. It can be used for marking assignments, class participation, or overall grades. There are two types of rubrics: holistic and analytical.
- Rubrics have many advantages
- There are several steps in the construction of rubrics. They are Step 1: Define Your Goal
- Step 2: Choose a Rubric Type, Step 3: Determine Your Criteria, Step 4: Create Your Performance Levels, Step 5: Write Descriptors for Each Level of Your Rubric, Step 6: Revise Your Rubric
- There are different types of rubrics like analytic and holistic

#### **2.4.5. Answer to ‘Check Your Progress - 1 and 2’**

##### **Check Your Progress - 1**

1-a,2-a,3-b

##### **Check Your Progress - 2**

3-5-2-6-1-4

#### **2.4.7. References**

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## **Block 2 : Assessment Procedure**

### **Unit 5 : Quantitative and Qualitative Aspects of Assessment: Appropriate Tools / Strategies for Each**

#### **Unit Structure**

- 2.5.1. Learning Objectives
- 2.5.2. Introduction
- 2.5.3. Learning Points and Learning Activities
- 2.5.3.1. Tools of Assessment - I: Activities, Projects, Debate, Written Tests, Crossword Puzzle  
Check Your Progress - 1
- 2.5.3.2. Tools of Assessment -II: Field Trip, Exhibitions, Class Assignments, Anecdotal Records, Portfolios  
Check Your Progress - 2
- 2.5.4. Let us Summarise
- 2.5.5. Answers to ‘Check Your Progress - 1 and 2’
- 2.5.6. Unit end Exercises
- 2.5.7. References

#### **2.5.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Create and use activities, projects, Debates, Written Tests, Crossword Puzzles for assessment along with required checklists
- Create and use Field Trip, Exhibitions, Class Assignments, Anecdotal Records, Portfolios for assessment

#### **2.5.2. Introduction**

Assessment for learning helps instructors from a clear picture of the abilities and needs of their learners. Assessment is done to measure what the learners can and cannot do at any given point in the learning process, and informs instructional decisions. It is ongoing, is tied to learning outcomes, provides information that informs decisions about planning and instruction, allows instructors to provide immediate, descriptive feedback that guides learning.

The performance of students is assessed normally either using qualitative or quantitative tools. The tool to be employed is decided by the objective of the assessment. Some tools assess the objective in quantitative terms and they are classified as quantitative tools of assessment. For example, Written tests, like short answer tests, multiple-choice tests make scope to quantify the performance of an individual in terms of marks. These help for different purposes like promotion, classification of students, etc. These normally answer the question ‘how much’. There are other qualitative tools like activities, projects, etc which help to further learn by giving appropriate feedback. Some tools assess the objective in qualitative terms and they are known as qualitative tools. These normally assess ‘how best’ of learning outcomes. Let us understand the different tools of assessment in the present unit.

### 2.5.3. Learning Points and Learning Activities

#### 2.5.3.1. Tools of Assessment - I: Activities, Projects, Debate, Written Tests, Crossword Puzzle

Assessment of learners by various methods in different situations helps us in recognising the abilities of the learner. The teacher may choose one or more of the following methods of assessment during different stages of the teaching-learning process:

Let us understand the different tools of assessment in detail. NCERT has prepared guidelines to use different tools along with examples, for assessing students' learning. Let us understand a few of them.

##### 1. Activities/Demonstrations

Activities and demonstrations are essential pedagogic strategies, particularly in science. They enhance learning and help in a better understanding of the concept among learners. It motivates them and nurtures their observation and experimental skills. A general discussion on the process and outcomes of the activity/demonstration enhances the interpretative and communication skills of the students. If learners are allowed to express their findings, it will enable them to develop good communication skills. As far as possible, learners should perform activities in groups. This provides learners an opportunity for collaborative learning. The group size may depend upon the type of activity, the student's strength, the apparatus, and space available. However, if possible, one group should not consist of more than 4-5 learners. As far as possible the groups should be heterogeneous. While the learners are performing an activity, they should be encouraged to discuss among themselves and also across the groups. The emphasis should be on self-exploration by the learners with minimal intervention by the teacher. The teacher should encourage learners to report their observations honestly. At the same time, the teacher must appreciate honest reporting. If there are differences in findings of different groups, they should be provided time to discuss, repeat the activity if necessary, and analyse the possible causes for these differences.

To elaborate on how learners can be assessed using various indicators, a few examples of activities have been picked up from NCERT textbooks. A tentative assessment plan is given for each of these activities. For each activity, some Indicators of Learning are given in Column II. Activity Specific Indicators (What can be assessed) are listed in Column III and Assessment of Learner (Check-list) are listed in Column IV.

##### Activity 1: Measuring body temperature

Condition: Students are given a demonstration by the teacher

Individual Activity

Measure the body temperature of five of your friends with a clinical thermometer and enter the data in the given table.

| Table: Body Temperature |      |                  |
|-------------------------|------|------------------|
| Sl.No                   | Name | Temperature (°C) |
| 1                       |      |                  |
| 2                       |      |                  |
| 3                       |      |                  |
| 4                       |      |                  |
| 5                       |      |                  |

## Assessment Table

| Sl No | Indicators of Learning                 | Activity Specific Indicators  | Assessment of Learner (Check List)  |
|-------|--|---|---|
| 1     | Experimenting/<br>Collecting data      | <p>Washes and wipes thermometer before use</p> <p>Brings mercury level below 35°C</p> <p>Places the bulb of thermometer at appropriate place of the body</p> <p>Keeps it there for about one minute</p> <p>Reads the mercury level in the thermometer</p> <p>Uses clock to monitor time and keeps it there for at least one minute</p> <p>Holds thermometer parallel to her/his eyes and the point to be read is in front of her/his eyes</p> <p>Follows correct procedure while measuring temperature of each student</p> <p>Measures temperature of 5 students</p> <p>Washes and wipes the thermometer before the next use</p> <p>Washes and wipes the thermometer and puts it back in its case</p> | <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> |
| 2     | Presenting data                        | <p>Enters names and temperatures in the Table</p> <p>Enters data in correct columns. Fills both columns. Fills data for all 5 students</p> <p>Speaks out temperature with its unit</p>  | Yes/No  |
| 3     | Analysing data and drawing conclusions | Realises that the body temperature of every person is not the same  | Yes/No  |
| 4     | Providing explanations                 | Answers questions related to the procedure  | Yes/No  |
| 5     | Asking questions                       | Shows interest/curiosity in getting related knowledge   | Yes/No  |
| 6     | Values/attitudes/concerns              | <p>Shows concern so that no accident takes place</p> <p>Take care to wash and wipe thermometer before and after each use</p> <p>Takes and records temperature of 5 students honestly</p>  | Yes/No  |

## 2. Projects

### Use of Projects for Assessment

Project work is usually an organised search, construction, or task-directed towards a specific purpose. Project work may involve a student or a small group of students. It provides an opportunity for the students to identify a problem, to design a work plan, to address the problem, to search for appropriate resources, to carry out their plan, and to draw a conclusion based on data/information collected. In the process, the students learn what is expected of them. The activities related to the project may involve the use of laboratory, library consultation, multimedia, internet, collection of information/data from the field, or at home through surveys/ interviews/collection of samples. The work may provide children an opportunity to have hands-on experiences in the manipulation of a variety of tools, devices, and apparatus and the process help them to imbibe learning and skills of self-expression. In yet another type of project, children may be involved in interacting with their peers, teachers, experts, and/ or members of the community to seek information on various issues and concerns to be addressed. Preparation of charts/models/publicity material, organisation of campaigns to focus attention on one or more social issues may also fall under the category of projects. Many projects can be designed to further extend/clarify the concepts to be learned through the prescribed syllabus. Questions asked by the children in the classroom may provide the basis for investigation as these are likely to sustain the interest of children. Projects help to stimulate interest in subjects, arouse curiosity, develop the ability of independent critical thinking, and provide experience in using the tools and techniques besides relating science with daily life situations and development of self-confidence.

As far as possible project work should be assigned and done during school hours, particularly at the upper primary stage. If the nature of the project is such that it has to be done outside the school hours, teachers should encourage the students to do it themselves. The teacher should exhort children to work by themselves without involving their parents on a given project and report the task honestly. At the same time, the teacher should also appreciate the honest reporting without worrying too much about the perfection of the task assigned. The type of project, its duration, and the month in which it has to be done should be according to the nature of the content and local conditions. Projects are done in a group that facilitates the development of social traits like leadership quality, cooperation, compassion, and tolerance.

### Assessment Table for Projects

| Sl. No. | Indicators of Learning | Activity Specific Indicators (What can be Assessed)   | Assessment of Learner (Check-list)   | Yes<br>√ | No<br>X |
|---------|------------------------|---|--|----------|---------|
| 1       | Designing the project  | Identifies clearly the objectives of the project<br>Understands the outcome expected of the project | -Lists the aims of the project<br>- discusses the objectives of the project<br>-Lists the specific objectives of the project<br>-understands the expected outcome of the project |          |         |

|   |                                  |   |  |  |
|---|----------------------------------|---|--|--|
|   |                                  | <p>-Identifies the locations for collection of data<br/>Prepares a tool to collect data, based on the objectives of the project<br/>Taking decision about the time and duration of the project</p> <p>Distributes roles among the group members</p> | <p>-refers to localities having diverse living styles<br/>-makes reference to know about the life styles of different localities<br/>-Identifies and decides the localities for data collection<br/>Decides on time, the time and duration of the project<br/>Makes an analysis of the roles involved in the project and lists the specific behaviours under each role<br/>Distributes the roles among the members of sub groups</p> |  |
| 2 | Execution of the project         | The group members execute the roles with responsibility   | Each sub group goes to different centres identified and collects data based on the questionnaire, following the behaviours expected in actual situations   |  |
| 3 | Analysing and Drawing Conclusion | Analyses the data based on different aspects<br>Groups deduct findings<br>Draw Conclusions  | <p>-Students sit in groups and one person from each group enters data on the data sheet and the rest of members help in documenting data.<br/>-Students record the data under different sub headings</p>   |  |
| 4 | Motivation for further learning  | Show interest to know more about the same issue.  | <p>-Show interest to know whether the same phenomenon exists in other parts of their surroundings<br/><br/>-Show interests to think of measures to face the challenges</p>   |  |
| 5 | Reporting the findings           | Groups report their findings using charts and graphs  | <p>Students report the findings</p> <p>Using charts</p> <p>Graphs</p> <p>Pictures</p> <p>With clarity in communication</p>   |  |

### 3. Debate/Discussion

The debate on a suggested topic may be organized by the teacher in the class ensuring participation of all the students. One of the ways could be to divide the class into 6/8/10

groups and assigning half the groups to speak in favour and the other half to speak against the topic. At the time of debate, while members of one group present their views, members of the groups opposing the view may be allowed to ask questions.

Goal: To develop a sense of gender equality and girl empowerment

An example of Debate: “Reservation for school leadership roles for girls in schools”

#### Assessment Table for Debate

| Sl.No. | Indicators of Learning   | Activity Specific Indicators (What can be Assessed)   | Assessment of Learner (Check-list)   | Yes No |
|--------|--|---|--|--------|
| 1      | <b>Planning</b>  | Making preparation by referring to books, consulting people about the topic, discussing about the topic before debate, Understanding the rules of debate  | -Proper preparation was made using different<br><br>-Roles were shared among the members of the group, assigning specific responsibilities<br>-The rules and the theme were understood properly before hand                      |        |
| 2      | <b>Participation</b><br><br>Raising relevant questions<br>Proper answering of questions raised | Participating with interests, clear communication, listening to what other groups express, active involvement<br>Raising appropriate questions at relevant stages<br>Answering convincingly the questions asked by others | The members of the group participated with<br>-Clear communication<br>-Patient listening<br>-Active involvement<br><br>Raised appropriate questions<br>Answered the questions raised by the members of other groups convincingly |        |
| 3      | <b>Consolidation</b>   | Consolidating the opinions of the group logically   | One of the members consolidated the final ideas and opinions of the group  |        |

#### 4. Written-test

In a written test, the teacher frames a set of questions to assess whether teaching has resulted in the expected understanding of a subject. The questions framed for the test invite students to write the answers within a specified time.

The written test can assess what a student has learned. The task can be given at any time during the teaching-learning process. It helps in grading the students according to their performance. The outcome of the written test could be used to improve the teaching-learning

process. The written test is also used to help the child to express what she/he has learned and where she/he has to put in a little extra effort.

It is however essential that the teacher must have some idea of the expected learning level of the students so that the questions must be set accordingly. The types of questions that are usually included in a written test are Multiple Choice Questions (MCQs), Short Answer Questions (SAQs), and Long Answer Questions (LAQs). The written test can also be in the form of an open book test.

### **Check Your Progress - 1**

Select an activity assigned to your students, create an assessment table to assess the same, and validate the same with the help of your colleagues.

## **2.5.3.2. Tools of Assessment II: Field Trip, Exhibitions, Class Assignments, Anecdotal Records, Portfolios**

### **5. Field Trip**

The field trip is an educational activity that gives an outdoor experience that cannot be provided in the classroom. It excites students of all ages, especially when they are in the upper primary stage. It helps to relate concepts of science learned in the classroom to real-life and to the environment. It enhances their observation and data recording skills. Students are active, motivation is elevated and critical thinking is also enhanced. A field trip does not need to be always conducted at a far-off place. Even a visit to the school garden can be rewarding. There may be many interesting places in the vicinity of the school which may be worth visiting for the students.

#### **Example:**

#### **Class VIII**

Theme: Conservation of Plants and Animals

Mode of Presentation: Presentation of group reports

Involvement of the Learner: Group

#### **Procedure**

##### **A. Pre-visit**

This will include the choice of a biodiversity park or a park in the neighbourhood of the school. A prior visit by the teacher can be helpful to decide on issues like time required, mode of transport needed, other requirements for the trip, such as permission from authorities. The teacher may advise the students about what to study on the trip. Instructions given to the students will include an introduction to the place to be visited and material to be taken along: • Notebooks/Worksheet • Pen/Pencils • Hand lenses • Specimen bags • Water bottles.

**B. During the Visit:** Students will be divided into groups and there will be a discussion with the teacher about the division of responsibilities. The teacher and students will identify specific group tasks to be undertaken during the visit.

#### **Example**

Group, I will study the sizes and shapes of different plants.

Group II will study different types of leaves (colour, venation, whether simple or compound ---).

Group III will study types of flowers and fruits.

Group IV will study the major structural features of birds, insects, and animals found in the park.

Group V will observe animal behaviour.

Note: The group tasks given above are suggestive and the teacher can choose activities appropriate to the site to be visited.

### **C. Post-visit**

- The students will record/tabulate their observations in their notebooks/ worksheets.
- This can be followed by a GroupWise discussion of the information gathered and consolidation of knowledge with the help of the teacher.
- The task can be concluded with an oral/written group presentation.

The assessment table has to be designed according to learning indicators as shown above.

## **6. Organizing Exhibitions**

An exhibition can provide a forum for the display of the work done by the students throughout the year. It serves to motivate the students and provides feedback to parents about their child's progress. It can also help students share their work to build a better understanding of the concepts involved. The display of various models can provide a spark for other students to participate in such events. Besides, this will also provide viewers a glimpse of what science and art can do.

The assessment procedures can be designed based on learning indicators.

## **7. Class Assignment/Home Assignment**

Any task in the class during the process of teaching-learning can be considered as Classwork. Learners in the class get involved in various tasks, such as demonstration, experiment, project, class discussion, presentation, written task, etc. These include observing, questioning, discussing, handling material, drawing conclusions, communicating, etc. All of these activities can be the basis of assessment. Classwork assessment should be an ongoing process. It should form an integral part of Continuous and Comprehensive Evaluation. Various tasks are undertaken in the class present a variety of situations for a learner to learn at her/his own pace, in her/his style, or according to her/his level/ability of understanding. These tasks also enable a learner to apply her/his learning to her/his day-to-day experiences.

As in other tasks, the classroom assessment helps in knowing the effectiveness of the teaching-learning process.

- comparing the various approaches implemented.
- identifying the learning gaps of the learner immediately.
- providing additional instructions/inputs to plugging the identified gaps.
- providing feedback to the learner for improvement of her/his learning.

An assessment table can be designed based on learning indicators

**Journal** The teacher may advise students to maintain a Science Journal. She/he may encourage students to write their experiences and ideas on daily basis and collect information by consulting resources available to them. On topics related to the concepts dealt with in the class, Science Journal will help foster a sense of scientific inquiry in the child.

For example, if a child gets interested in knowing more about, say, earthquakes, and earthquake-resistant buildings, she/he may be encouraged to collect the details of such buildings by exploring the library or the internet. This information may be compiled in the Science Journal.

As another example, suppose a student, while going through the chapter on 'Habitats' gets interested in learning more about the desert. She/he may use a globe to find out about deserts of the world. She/he may also find out how people live there and cope with the shortage of water and may find out about other animals that have adapted to desert conditions for their survival. The child may collect newspaper articles on any subject such as the latest development in the field of Space Science, Medicine, Food Production, Robotics, etc. Articles like Do You Know, Quires, Poems, etc., can also be included in the Science Journal.

Recently, there was a report in the newspaper on a controversy about the nature of the bamboo plant, whether it was grass or a tree. Since children are familiar with the bamboo plant from their science textbook, they could search for various sources to find out the nature of this plant. This information should form a part of their Science Journal.

The Science Journal can be maintained by an individual child or collectively by a group or by the whole class. The teacher may go through the Science Journal and give feedback to students in the form of encouraging comments/remarks.

## **8. Anecdotal Records**

The anecdotal record refers to a written description of a child's progress that a teacher keeps on a day-to-day basis. It provides observational narrative records of significant incidents in a child's life.

During the teaching-learning process, the teacher sometimes comes across inquiry-based questions, observed by the children whose validity is much beyond the classroom. The records of such anecdotes and the response of children to these anecdotes can be a powerful tool for assessing and guiding them to the right path.

### **Example:**

While teaching 'Fertilisation' in Class VIII, the teacher told that a hen lays an egg that is already fertilised and sits on it to hatch it. A child suddenly asked the following question: "Why does the hen take the trouble of laying an egg and hatching it, instead of directly delivering the chick?"

This question sets a wave of excitement in the class and every child started thinking about the answer to this question. Various possible answers were discussed in the class. It so happened that the teacher herself was new to biology teaching. She scrambled for a possible answer that she could find. She said that she would consult the biology expert. However, in her assessment, this child stood outstanding. Anecdotes of this type can arise in any class and such an out of box thinking should alert the teachers to use these opportunities to assess her students.

## 9. Portfolio

The student portfolio provides evidence of students' knowledge, skills, and attitudes. It is a documentation of the students' growth. Portfolios are portraits of the students during a term or throughout the year. All tasks assigned to the students and assessed by the teacher should go into her/his Portfolio.

The portfolio helps in a variety of ways:

- It enables the teacher to assess the child holistically.
- It helps the learner in reflecting and assessing their work for further improvement.
- It fosters increased communication between teacher and student, teacher and parent, and teacher and other professionals in the school regarding the student's achievement, progress, and growth.
- A portfolio is a collaborative effort between the teacher, the student, and the parents.
- A portfolio helps the teacher to assess the child's attitudes, interests, ideas, learning styles, strengths and weaknesses, process skills, inquiry skills, and content acquisition. The portfolio of each student should be maintained wherever possible – School or Home. The portfolios should be periodically reviewed and the learners kept updated for their comprehensive development.

### Check Your Progress - 2

Organize a field trip with specific objectives to a nearby significant place, create an assessment tool for the same in such a way that the students just by looking at the tool wherein they are assessed will be able to assess their performance. Ask for students' feedback for the assessment procedure you used.

#### 2.5.4. Let us Summarise

- Assessment for learning helps instructors from a clear picture of the abilities and needs of their learners. Assessment is done to measure what the learners can and cannot do at any given point in the learning process, and informs instructional decisions.
- Activities and demonstrations are essential pedagogic strategies, particularly in science. They enhance learning and help in a better understanding of the concept among learners. It motivates them and nurtures their observation and experimental skills.
- Project work is usually an organised search, construction, or task-directed towards a specific purpose. Project work may involve a student or a small group of students. It provides an opportunity for the students to identify a problem, to design a work plan, to address the problem, to search for appropriate resources, to carry out their plan, and to draw a conclusion based on data/information collected. In the process, the students learn what is expected of them.
- Debate on a suggested topic may be organised by the teacher in the class ensuring participation of all the students. This activity also helps teachers to assess several objectives related to content, behaviouristic and attitudinal aspects
- The written test can assess what a student has learned. The task can be given at any time during the teaching-learning process. It helps in grading the students according to their performance. The outcome of the written test could be used to improve the teaching-learning process. The written test is also used to help the child to express what she/he has learned and where she/he has to put in a little extra effort.
- Crossword puzzle also can be used very effectively to test content knowledge and understanding

- The field trip is an educational activity that gives an outdoor experience that cannot be provided in the classroom. A teacher can very well make use of a field trip to assess non-cognitive aspects like cooperation, empathy, concern for others, etc of students
- Making students organize an exhibition is one of the effective ways to assess students' interests, skills, competencies, in the subject.
- Different types of class assignments also help teachers assess the learning outcome of students.
- The anecdotal record refers to a written description of a child's progress that a teacher keeps on a day-to-day basis. It provides observational narrative records of significant incidents in a child's life.
- The student portfolio provides evidence of students' knowledge, skills, and attitudes. It is a documentation of the students' growth. Portfolios are portraits of the students during a term or throughout the year.

### **2.5.5. Answer to 'Check Your Progress – 1 and 2'**

#### **Check Your Progress - 1**

Share your experience of creating and using an assessment tool with your colleagues. Compile assessment formats for further use.

#### **Check Your Progress - 2**

Share your assessment experience with your colleagues.

### **2.5.6. Unit end Exercises**

Explain the advantages and the procedure of using the following tools for assessment: Activities, projects, debates, written tests, crossword puzzles, Field Trip, Exhibitions, Class Assignments, Anecdotal Records, Portfolios.

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## **Block 2 : Assessment Procedure**

### **Unit 6 : Visualizing Appropriate Assessment Tools for Specific Contexts, Content, and Learner**

#### **Unit Structure**

- 2.6.1. Learning Objectives
- 2.6.2. Introduction
- 2.6.3. Learning Points and Learning Activities
  - 2.6.3.1. Deciding an appropriate tool for Assessment:  
Check Your Progress - 1
  - 2.6.3.2. Formulating tasks and questions  
Check Your Progress - 2
- 2.6.4. Let us Summarise
- 2.6.5. Answers to ‘Check Your Progress - 1 and 2’
- 2.6.6. Unit end Exercises
- 2.6.7. References

#### **2.6.1. Learning Objectives**

After completing this Unit, the student teachers will be able to

- Select appropriate assessment tools for different contexts; and
- Create authentic assessment tools.

#### **2.6.2. Introduction**

We are now familiar with the different tools and techniques of assessment. Using these tools is inevitable in the context of the teaching-learning process to facilitate students for learning. To decide which tool to use in which context is a challenging task. Selecting appropriate tool results in appropriate assessment results and help both teachers and students to assist the learning process. While deciding the tool to assess a particular learning outcome number of aspects have to be taken into consideration. Hence, let us understand how to decide on a precise tool in the process of assessment.

#### **2.6.3. Learning Points and Learning Activities**

##### **2.6.3.1. Deciding an appropriate tool for Assessment**

In the modern context of student-centric learning, the role of a teacher is much more challenging and needs regular follow up and constant monitoring and knowing the improvement of the learner. In this context, a teacher must acquire competencies and abilities to design and plan the entire process of assessment right from the identification of tools to the extent of giving feedback.

The following steps are very important in the process of assessment for learning.

- Decide what you want to assess
- Identify and decide appropriate task for assessment
- Identify learning criteria
- Create an assessment tool for assessing the expected behaviour or learning

Whenever a teacher intends to assess it is important to know

- What to assess?
- To whom is the assessment?
- Which content?
- What task to assign?
- What tool to use?
- In which context?
- How and when to administer the tasks?
- How to interpret the data of assessment?
- How to report the results of the assessment?
- Who to report?

Consider the following aspects:

### **Deciding the content**

No tool or test is relevant for all purposes, learners, contexts, and content. So, the teacher needs to be very clear about the content for which the test or any other assessment tool is designed or selected when readily available. The test should serve the purpose, i.e. it should reveal whether the students have learned what is expected of them. Content is the first criterion that a test selection needs to be considered. So, depending upon the type of content the tests are designed suitable to the respective subjects and the learners. If they are classroom tests to assess students' achievement or if they need to know the level of learners' intelligence, aptitude, attitude, interest, etc, one may select a test for such purpose.

### **Deciding for whom?**

Does the teacher need to know for whom is the assessment? Are the children below of elementary stage? Or adolescents?

### **Clarifying the purpose of the assessment**

Is it to assess whether they have learned what was intended?

Is it for diagnosing difficulties?

Is it for grouping students for different purposes?

Is it for promotion?

### **Identifying and deciding the tool for assessment**

At this point, the teacher needs to decide the task/tool she/he likes to assign for students for assessment. Based on the task, whether it is a project, or debate, or field trip the teacher can identify the learning indicators which involve the expected behaviours in terms of content as well as the activity or task used to assess. For example, if the teacher wants to assess students' knowledge of constitutional values, through role-play the teacher needs to design the tool in such a way that it assesses the knowledge of students on constitutional values, as well as the competencies to take part in, role-play which finally indicates the learning outcome of students. In the same way, different tools may be evolved appropriately to the assessment of different learning outcomes.

### **Taking note of the context of assessment to decide the tool.**

Context is the condition in which the assessment takes place. Is it before teaching, or after teaching or after giving a few sessions, etc? What is the condition of the class as the time of assessment concerning the input for learning indicates the context. Context also includes the nature of what needs to be assessed. Whether the teacher wants to assess a

student's performance in the sports field, or painting or in the laboratory, or classroom, etc. This may demand a checklist, rating scale, observation schedules, or a rubric with definite and appropriate criteria. Thus, deciding the tool based on the context is a very important job of a teacher.

The tasks and tools that can be used by a teacher for assessment purposes have been already discussed under the heading 2.5 of the same course.

### **Check Your Progress - 1**

1. When we say that a particular tool is to diagnose a learning problem we are talking about
  1. Purpose
  2. Content
  3. Context
  4. None of the above
2. When we say a tool has to be used after teaching, we are referring to the
  1. Mode
  2. Context
  3. Time
  4. Objective

### **2.6.3.2. Formulating tasks and questions that engage the learner and demonstrate the process of thinking and creating scope for original responses**

We in our classroom teaching and learning focus on achievement at knowledge and comprehension level. Though it is basic and important we do not make effort to develop higher-level thinking. But as students work with tasks for learning they should be able to develop higher-level thinking abilities, which they need to transfer in their daily life. The teacher should make a scope for the following both in instruction and assessment.

#### **As students work with different learning tasks,**

They should not be just expected to say what others have said about something but should be encouraged to explain, interpret, and justify what they know in their way.

What is  $2+2$  equal to?

Immediately the teacher expects the answer to be 4. The students should be allowed to give their answers.

Observe the answers given when such a situation was created

$$1+1=8$$

$$1+1=10$$

How is this possible? The children answered their friends. We have  $1+1$  dogs and each has four legs.

We have  $1+1$  hands. Each hand has 5 fingers. Therefore, the total number of fingers is 10.

- When a child is exposed to a situation like this, it may go beyond the limited scope.

Therefore, students should be allowed to speak to their peers about their strategies or meanings they have used to arrive at their conclusions

- Students should be allowed to express their ideas, insights, and feelings. When students were asked to express how they liked the poem, one student just jumped. When the teacher further made attempts to know what it meant, she said, she enjoyed the poem. The students like to sing a poem as they would rather than telling the summary. The teacher need not to insist on students to answer comprehension questions. The way the students sing communicates their understanding.
- The teacher should explore what students understand in new situations.

There are higher-order faculties that contribute to the development of productive ideas. This is very important for both the individual and the nation. Abilities like thinking, questioning, probing, enquiring, and innovating are the basic nature of human beings. We, normally do not address these abilities. These can be developed only with the help of a proper instructional and Authentic assessment plan.

Authentic assessment is a form of assessment in which students are asked to perform real tasks that demonstrate meaningful application of essential knowledge and skills: Jon Muller

It usually includes a task for a student to perform and a rubric by which their performance on the task will be evaluated.

## **Let us understand how to create authentic assessment tools**

### **1. Decide the standards of Assessment:**

Before the process of assessment, you have given learning experiences for your student based on your decisions about what you intend them to know or be able to do. This list of knowledge and skills form the standards of your assessment

**Example:** You want to develop the skill of writing coherent paragraphs among your students. So, you have exposed them to good paragraphs that are written with the actual attributes of a good paragraph. You have developed a paragraph along with students. At this stage, you have demonstrated only three attributes of a paragraph. They are:

- i. using topic sentence
- ii. using connecting words wherever necessary
- ii. arranging sentences in proper sequence

### **2. Design or Select Authentic Tasks:**

After giving input based on the standards set, you intend to know whether the students have met these standards. For this, you need to design appropriate tasks. These appropriate tasks allow students to demonstrate what they have learned.

**Example:** You have already demonstrated how to write coherent paragraphs using the topic sentence and connecting words. Now you want to assess whether students can write a coherent paragraph using a topic sentence, arranging sentences in proper sequence, and write using connecting words. So, you assign them a writing activity: Write a paragraph with at least ten sentences on 'the uses of computers. This is known as the authentic task

### **3. Identify criteria for assessing the task:**

When do you say that the performance of students on this task is good? For this, you need to identify and look for characteristics of good performance called 'Criteria'.

**Example:** What are the criteria in the present example?

The students should write a paragraph

1. using an appropriate topic sentence
2. using connecting words wherever necessary
3. arranging the sentences in proper sequence

#### 4. Create a Rubric:

Next comes the question of how well the students have performed. This becomes obvious when we discriminate student performance across criteria. For this, you need to create a rubric.

|  | Proficient 3   | Partially Proficient2  |   | Non-Proficient1   |
|--|--|--|---|---|
| Use of topic sentence                        | Composed appropriate topic sentence and used at proper place   | Composed appropriate topic sentence but not used at proper place | Used topic sentence at appropriate place but topic sentence is not apt. | Topic sentence not appropriate and not used in proper place |
| Maintaining Coherence using connecting words | Maintained coherence using connecting words wherever necessary | Appropriate connecting words used but not where they are needed  | Connecting words used are not appropriate                               | Connecting words not used, cohesion not found.              |
| Maintaining coherence with sentence sequence | All sentences are set in proper sequence                       | Few sentences are set in proper sequence                         | Number of sentences is less but in sequence.                            | Sentences are not set in proper sequence                    |

Find another example of a rubric below:

#### Product: An oral presentation

|                     | Indicators   |   |  |   |
|---------------------|--|---|--|---|
|                     | Ideas/Content  | Organization  | Audience Connectedness   | Delivery  |
| Level 4<br>Advanced | Examples, anecdotes, quotations, analogies, and stories enhance and enrich the ideas. Details chosen are unique and personalized to impact the listener. | Introduction grabs attention and gives direction. The whole is greater than the sum of its parts. Conclusion stimulates further thinking or action. | Presenter holds audience in the palm of his/her hand. Audience is motivated to further action. | Speaker personalizes the presentation, building on his/her strengths. Speaker moves about easily in a way that enhances the presentation. Speaker exudes a presence that captures the audience. |

|                                    |   |   |  |   |
|------------------------------------|---|---|--|---|
|                                    |   |   |  |   |
| Level 3<br>Proficient              | Ideas are clearly stated. Specific details support the ideas and clarify the purpose. Details are chosen to help the listener visualize concrete images. Examples are used to clarify ideas and connect the listener. | Well-defined introduction and conclusion; logical sequence from beginning to end; ideas flow; and transitions are logical.                          | Response to the feedback tool indicates that the audience was connected and engaged in thinking. Presenter responds and adjusts to non-verbal feedback of audience e.g. smiles, nods, leaning forward, etc. Presenter conveys enthusiasm and commitment. | Speaker maintains eye contact. Speaker is poised and appears confident. Gestures, posture, and expressions are natural and appropriate. |
| Level 2<br>Partially<br>Proficient | Details are sketchy. Ideas are incomplete and not developed. Examples do not clarify or support ideas.  | Transitions are so obvious that they interfere with the flow. Introduction does not set purpose. Lacks a sense of closure. Ideas are not connected. | Response to the feedback tool indicates that the audience was unmotivated. Speaker does not respond to non-verbal feedback of audience.  | Speaker lacks confidence. Gestures are forced and awkward. Presentation is disjointed.  |
| Level 1<br>Non<br>Proficient       | Presentation has no focus. No main ideas are presented.   | Ideas ramble. Presentation has no introduction or conclusion.   | Response to the feedback tool indicates that the audience was apathetic. Speaker is unaware of audience feedback.  | Speaker is unprepared and unrehearsed.  |

Scoring Process: Level 4 = Total 15 - 16 Level 3 = Total 12 - 14  
Level 2 = Total 7 - 11 Level 1 = Total 4- 6

## Check Your Progress -2

Match the items in list 'A' with the items in list 'B'

|   | List 'A'                             | List 'B'   |   |
|---|--------------------------------------|--|---|
| 1 | Decide the standards of Assessment   | tasks to ensure whether the students have achieved the expected outcome              | a |
| 2 | Create rubric                        | Description of behaviours that ensure expected outcome at different levels           | b |
| 3 | Select Authentic Tasks               | what you intend your students know   | c |
| 4 | Identify criteria for assessing task | Create a tool to ensure the extent to which students have reached the learning goals | d |

### 2.6.4. Let us Summarise

- Whenever a teacher intends to assess it is important to know What to assess? To whom is the assessment? Which content? What task to assign? What tool to use? In which context? How and when to administer the tasks? How to interpret the data of assessment? How to report the results of the assessment? Who to report?
- While teaching and assessing the teacher should make scope for explaining, interpreting what they learn in their way, should be allowed to express their ideas, insights, and feelings.
- Creating authentic assessment tools involves several steps: Deciding standards of assessment, selecting authentic tasks, identifying criteria for assessing tasks, and creating rubrics.

### 2.6.5. Answer to 'Check Your Progress – 1 and 2'

#### Check Your Progress - 1

1-a,2-b

#### Check Your Progress -2

1-c, 2-d, 3-a, 4-b

### 2.6.6. Unit end Exercises

Explain the procedure of creating authentic assessment tools

### 2.6.7. References

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