

# Module5

## Assessment and Evaluation

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## Foreword

Academic learning is meaningful when what is planned in the course curriculum is reaching the target audience of students pursuing the course, in a proper and understandable way. How much of the concepts the students have understood while studying the course as much as after completing the course, is a vital metric that needs a proper measurement.

Assessment and Evaluation are very important ingredients of the constructive alignment process. A course is said to be well designed when it is able to impart proper knowledge in the students who study it and improve their skills in the area of study.

The measure of the students' mastery over the subjects covered in the course curriculum is quantified only through Assessments and Evaluations.

Assessments and Evaluations are not just the tests to validate the understanding of the subjects by the students. They also provide a feedback mechanism to the academicians about the content and the transmission of the subject from the teacher to the students.

Reflexivity and continuous learning and development are key aims of successful evaluation. Assessment activities need to tell what has been learnt and taught, and should not be designed to catch students out or be constructed so as to be ambiguous or inexplicit.

Various types of Assessments, Evaluations and different rubrics are discussed to the extent necessary for the students pursuing this course.

Curriculum design, teaching, assessment, feedback, evaluation and course content improvements form a closed loop in the world of academic excellence.

A strong foundation is devised to be laid to make the concepts of Assessment and Evaluation, a meaningful and purposeful study through this course material. Teachers and students would find this resource to be a handy guide as much as a tool.

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## Introduction

In the inside pages, a detailed explanation of the concepts of Assessment and Evaluation is presented to the students, in a lucid way. While over simplification is avoided, a conscious attempt is being made to make the reading of the material in a way that is understandable, with the use of sufficient examples wherever they are felt to be needed.

Assessment and Evaluation concepts are defined and the basic differences between the two are discussed. The differentiation of Qualitative and Quantitative assessment is established in a language that is less complex. Pros and cons of qualitative and quantitative assessments are detailed. Different forms of assessment and evaluation are explained. Objective assessment criteria are enumerated.

Introduction is given to the use of ICT tools to aid better assessments and the need to use them in the assessment processes in the classrooms. Objective development of tools of assessment are mentioned and discussed in detail. Levels of questions and the suitability of using some or all of the complexity surrounding the questioning is debated.

The importance of framing of questions is explained in a presentable way to the students.

Likert, Thurstone scales, Likert scales and Gittman scales are studied and examples under each of the scales are given. Suitability of different scales is explained in detail. To summarize the content, a proper detailed account of assessment and evaluation process, the types, methods and the suitability of each of them are identified and presented in this course material. With this introduction, students as well as teachers can plunge into the topics covered in the inside pages of this course material.

### Objectives

- To know the concepts of assessment and evaluation
- To impart knowledge about the distinction between assessment and evaluation
- To Explain the differences in types of assessments – qualitative vs quantitative
- To know the concept of logic of assessment of learning
- To enumerate the different modes and forms of assessment and evaluation
- To make understand levels and framing of questioning
- To know the tools of assessment

## Block 1: Assessment and Evaluation

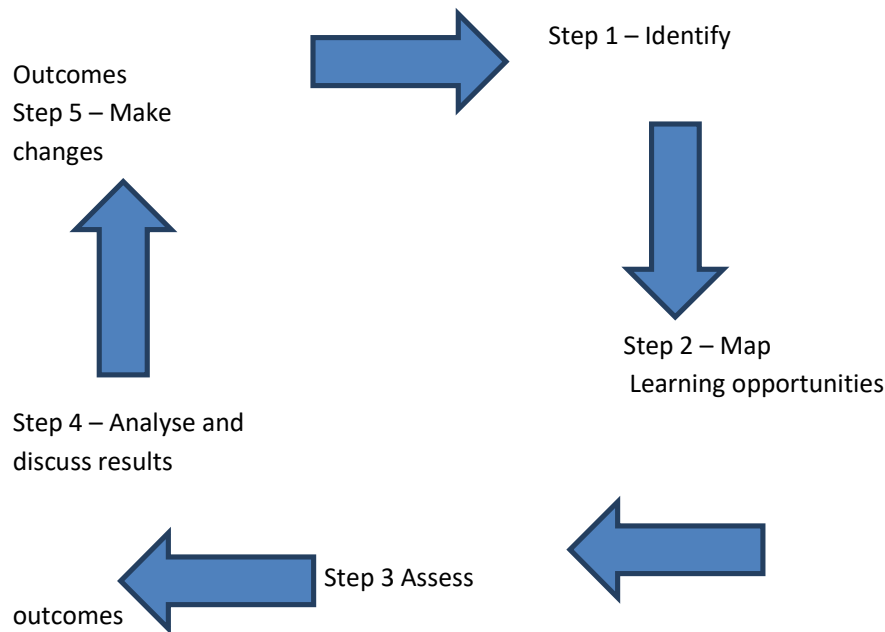
### 1.1 Assessment types and applications

An assessment is defined as a process of appraising something or someone. It is the act of gauging the quality value of importance. It is a measure of effectiveness of teaching. Assessment is a process of collecting, reviewing and using data, for improvement in the current performance. Assessment is formative. Assessment is diagnostic in nature. It is an ongoing interactive process, in which two parties (assessor, the one who assesses and the assessee, the one who is being assessed). The process aims at determining the effectiveness of the overall performance of the assessee and the areas of improvement. The process involves, setting up of goals, gathering information, both qualitative and quantitative, and using the collected information for increasing the quality.

Assessment refers to the wide variety of approaches to be used by the educators to evaluate measure and document the academic readiness, learning progress, skill acquisition, or educational needs of the students.

Any learning has to happen in a methodical way. Once it is learnt, it has to be measured, to see the effectiveness of the learning. For checking the effect of the learning, some sort of feedback is needed. Simply put, students need to be assessed for their understanding of the subject.

- Assessment is Not Testing: Testing is gathering and analysing evidence of achievement of student learning outcomes. It is only one of the steps in the assessment process.
- Assessment is NOT Evaluation: Evaluation uses assessment information to make an informed judgment. Evaluation describes two of the steps in the assessment cycle (shown in the figure below), viz., Analyse and discuss results and make changes.
- Assessment is NOT Grading: Grading is the process of assigning a value to an individual's performance. Grades and assessment criteria may differ.



**Fig 1.1 The Assessment Cycle**

Assessments are used for a wide variety of purposes in education systems.

- **High-stakes assessments:** These are called high stakes assessments for the reason that these carry a lot of decision making tests, like where the students have learnt what is being taught and are they capable of going to the next class or not.
- **Pre-assessments:** These are administered before the start of a lesson to see the preparedness of the student in going for the lesson. It is like priming before actually beginning to learn a subject
- **Formative assessments:** These are given to get the feedback about what students are learning or not learning, so that further teaching could be altered to match their level of understanding with the use of appropriate teaching materials. These are generally not scored or graded. They are administered with the use of in-class discussions or formal quizzes.
- **Summative assessments:** There are used to evaluate student learning, at the end of the course. They are typically scored and graded tests, assignments or projects, to determine if the students have learned what was expected to learn during the course duration.
- **Interim assessments:** Interim assessments are used to check if the learning process is on track or not. They are akin to pre-final examinations.

- **Placement assessments:** These are used to “place” students into a course, course level or academic program. It is like an aptitude test to assess if a student has an aptitude to learn a particular course or subject.
- **Screening assessments:** These are used to determine if the students need any specialised assistance or services or if they are ready to take a course, before actually taking up the course.

It is pertinent to know that not all of these forms of assessments are needed or used by educators. We have gone with the broader variety of purposes of the assessments as one size doesn't fit for all and every curriculum needs one or more of these approaches.

Assessments are also designed in a variety of ways for different purposes:

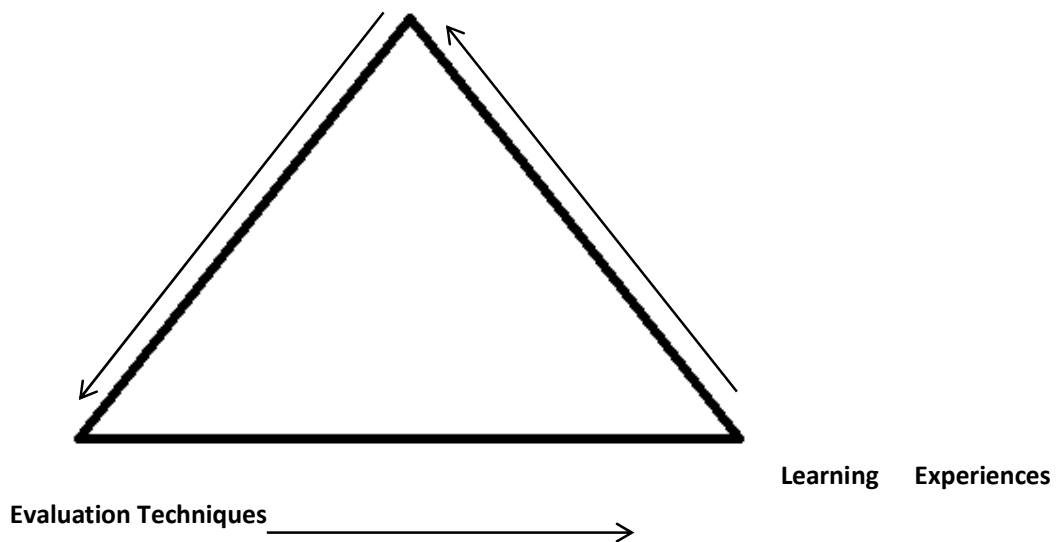
- **Standardised assessments:** As the name suggests, these are designed, administered and stored in a standard or consistent manner. Standardised tests can be conducted to large student populations of the same age or grade level in a state, region, or country, and results can be compared across individuals and groups of students.
- **Standards-referenced or standards-based assessments:** These are conceptualized to measure how well students have mastered the specific knowledge and skills described in regional or national learning standards. These may be customized to suit schools and teachers.
- **Common assessments:** Common assessments are used to ensure that all teachers are evaluating student performance in a more consistent, reliable and effective manner. These are used to check and ensure consistency and evaluation applied to students.
- **Performance assessments:** These require students to complete a complex task, to check for a particular skillset in the candidates. These can also be called as “authentic assessments”, as they are considered by some educators to be more accurate and meaningful evaluations of learning achievement than traditional examinations
- **Portfolio-based assessments:** These are collective works for a student that are compiled by her and assessed by teachers in consistent ways.

We shall discuss more about the types, methods and forms of the assessments in the succeeding chapters on forms of assessments.

## 1.2 Evaluation

Evaluation is the process of observing and measuring a thing for the purpose of judging it by comparing it to a standard. Evaluation is summative form of testing. Evaluation is described as an act of passing judgement by set of standards. It focuses on making a judgement about values, numbers or performance of someone or something. Evaluation may not result in success or failure. Evaluation is judgemental in nature. Evaluation is more of a final process. It is a systematic process which gauges the performance of a person, completed project or product, to evaluate the worth of significance.

### Objective



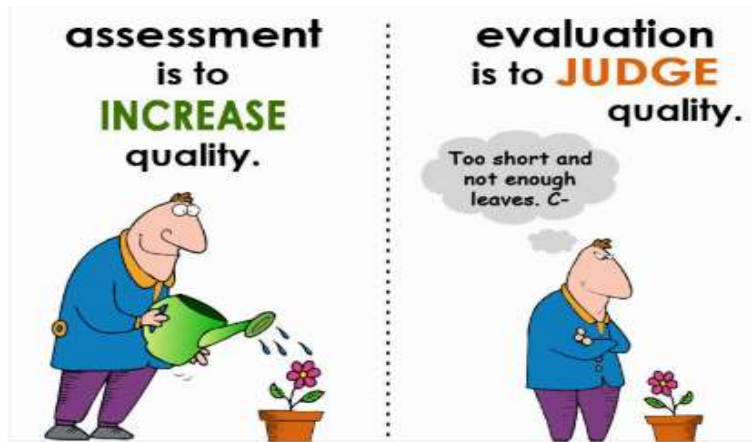
**Fig. 1.2 Evaluation process**

Ralph Tyler: **“Evaluation is the process of determining to what extent the educational objectives are being realised.”**

James M. Lee: **“Evaluation is the appraisal of pupil’s progress in attaining the educational goals set by the school, the class and him. The chief purpose of evaluation is to guide and further than a negative process.”**

Assessment and evaluation are completely different. While evaluation involves making judgements, assessment is concerned with correcting the deficiencies in one’s performance. Both play a crucial role in analysing and refining the performance of a person, product, project or process.





**Fig. 1.3 A Simple illustration of the difference between Assessment and Evaluation**

Differences between Assessment and Evaluation: Having understood the concepts of Assessment and Evaluation, let us see the more clear differentiation between the two.

Assessment	Evaluation
The process of collecting, reviewing and using data for the purpose of improvement in the current performance.	A process of passing judgement, on the basis of defined criteria and evidence.
Diagnostic in nature. It tends to identify areas of improvement.	Judgemental. It aims at providing an overall result or grade.
Provides feedback on performance and shows ways to enhance performance in future.	Ascertain whether the standards are met or not.
Assessment is formative in nature.	Evaluation is summative in nature.
Assessment is concerned with process.	Evaluation focusses on product
Assessment provides feedback based on observation of positive and negative points.	Feedback relies on the level of quality as per the set standard.
In assessment, the relationship between the assessor and assessee is reflective.	Evaluator and evaluate share a perspective relationship wherein standards are imposed externally.
It is an interactive process. Measuring criteria set by both the parties jointly.	Evaluation is a one way street. A criterion is set by the evaluator.
Measurement standards for assessment are absolute.	Measurement standards for evaluation are comparative.

Assessment is concerned with correcting the deficiencies in one’s performance.	Evaluation is objective. It involves making judgements.
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**Tab. 1.1 Key differences between Assessment and Evaluation**

**To Do Activity:**

1. “Assessments are used for internal examinations and Evaluations are used for external examinations.” How do you explain this statement?
2. “Assessments need to not be graded, while Evaluations need to be.” Justify this statement with your understanding of the subject

### 1.3 Quantitative and Qualitative forms of Assessment

Assessments can be of both qualitative and quantitative forms. There is a great debate between qualitative and quantitative methods of assessments. Qualitative data measures quantifiable terms, such as “how much”, “how long” and “how many”, while qualitative data measures the reasons behind behaviour, such as the ‘how’ and ‘why’. While neither method is ‘better’ than the other, there are advantages and disadvantages to both.

Qualitative methods of assessment are ways of gathering information that give results that can’t easily be measured and where translation into numbers is not a possibility. They are often used when you need the subtleties behind the numbers – the feelings, small actions, or pieces of community history that impact the current situation. They acknowledge the fact that experience is subjective – that it is obtained as a result of the perceptions and world views of the people undergoing it – and that it’s important to understand those perceptions and world views.

Thus we understand that there are two major scientific ways of assessments: quantitative methods and qualitative methods. Quantitative methods are those that express their results in numbers. They tend to answer questions like “How many?” or “How much?” or “How often?” When they’re used to compare things – the results of some programs, the effects of an economic development effort, or attitudes about a community issue – they do it by subjecting all of the things or people they’re comparing to exactly the same tests or to the same questions whose answers can be translated into numbers. That way, they can compare apples to apples – everything or everyone is measured by the same yardstick. Quantitative measures are often demanded by policy makers; they are considered trustworthy because their results can be measured against one another, and as they leave less scope for bias.

Qualitative methods don’t yield numerical results in themselves. They may involve asking people for “essay” answers about often-complex issues, or observing interactions in complex situations. When you ask a lot of people for their reactions to or explanations of a community issue, you’re likely to get a lot of different answers. When you observe a complex situation, you may see a number of different aspects of it, and a number of ways in which it could be interpreted. You’re only comparing apples to oranges. As a result, researchers and policymakers sometimes see qualitative methods as less accurate and less legitimate than quantitative ones. This inference is not without any basis. At the same time, if qualitative methods are used with care, they can also yield reliable information.

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Quantitative assessments appear to sound authentic with the numbers against each of the observations, which is not the case with the Qualitative assessments, which are more of subjectivity than reading out figures. If that is the case, why and where you would prefer Qualitative assessments instead of quantitative assessments? To understand that, let's consider a case here:

You are out studying a community, which is decidedly of low-income group. The vast majority of the inhabitants are people who live in their own homes. This is a case where qualitative examination is preferred over its quantitative sibling for the following reasons:

- The community is mainly comprised of elderly people, who have been living in their own spacious homes for a long time. Their houses have been constructed some 40 or more years ago. They have constructed these homes when their incomes were high and the housing costs were less expensive.
- Banks have done a priority lending for these people to buy their homes, under the government's scheme to implement the housing – for – all scheme. So the interest mortgages are lower and they could build them.
- Though the income levels of the people are low, they scrimp on everything else in order to put away money for a house. This is more prevalent among immigrants from certain cultures, where people prioritise education and property over other things for security purposes.
- The particular community is not a preferred place for housing because of the quality of construction and the neighbourhood and as such housing is cheap in that locality.
- A combination of factors, some of which may not be listed here.

Qualitative Assessment		Quantitative Assessment	
Learning Log			
Note making	Note taking		

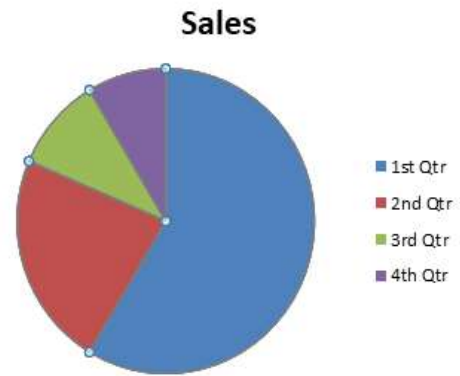


Fig 1.4 Qualitative and Quantitative Assessments

**Pros and Cons of Qualitative and Quantitative Assessments:**

Qualitative	Quantitative
<p><b>Pros</b> Qualitative assessment allows one to explore topics in more depth and detail than quantitative assessment.</p> <p>Qualitative assessment is often less expensive than quantitative assessment, because you don't need to recruit as many participants or use extensive methods.</p> <p>Another pro of qualitative assessment is that it offers flexibility as far as locations and timing because you don't need to interview a large number of people at once.</p> <p><b>Cons:</b></p> <p>Qualitative assessment cannot quantify how many of your audience answer one way or the other. It is statistically difficult to use.</p> <p>Qualitative assessment does not allow you</p>	<p><b>Pros</b> One of the pros to quantitative assessment involves the fast speed that data can be collected. This data can be analysed quickly, using statistically valid random sample, a survey can quickly be generalised to the entire population.</p> <p>Another advantage involves the planning process for programs and messages. With the reliable, repeatable information that quantitative survey can provide, a trusted set of statistics can give confidence when making future plans. It can also be anonymous, which help while dealing with sensitive topics.</p> <p>A major pro of quantitative assessment is that it allows you to generate your findings beyond the participant group.</p> <p><b>Cons:</b></p> <p>Limited ability to probe answers in the disadvantages of quantitative assessment.</p> <p>Quantitative assessments can be expensive</p>

to use your findings as a basis for a broader audience of the public in general	
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Qualitative assessments such as interviews, observation, focus groups, and community meetings that might not yield results that can be reduced to numbers, or those that could not be captured using quantitative methods, are often extremely useful. Qualitative assessments are useful particularly in such conditions when they are used together with quantitative methods of assessments, which do give numerical results.

**To Do Activity:**

1. Think of two separate conditions where you would prefer one of qualitative assessment and quantitative assessment over the other. Illustrate.
2. Qualitative assessment is simpler yet vague. Do you agree with this statement? Justify your answer.

### 1.4 Logic of Assessment of Learning

Assessment of learning refers to strategies designed to confirm what students have learnt, test whether they have met curriculum outcomes or the goals of their individualised programs, to validate their proficiency and make decisions about students' future programs or placements. It is designed to provide evidence of achievements to parents, other academicians, the students themselves, and finally sometimes to external agencies, like employer or other educational institutions.

Assessment of learning often contributes to pivotal decisions that will affect students' future. It is the assessment that becomes public and results in statements or symbols, about the effectiveness of the teaching imparted to the students. Hence, it is important that the underlying logic and measurement of assessment of learning be credible and defensible.

Teacher's role in assessment of learning: As the consequences of learning are often far – reaching and affect students seriously, teachers have the responsibility of documenting student learning accurately and fairly, based on evidence obtained from a variety of forms of assessments. Effective assessment of learning requires that teachers provide

- A rationale for undertaking a particular assessment of learning at a particular point of time.
- Clarity in the expectations of the intended learning
- Processes that make it possible for students to demonstrate their competence and skill.
- A variety of alternative mechanisms for assessing the same outcomes.
- Public and defensible reference points for making judgements.
- Transparency in approaches to interpretation.
- Descriptions of the assessment process
- Strategies for recourse in the event of disagreement about the decisions.

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

Planning assessment of learning: There are many potential users of the information, that is, the results of assessment of learning

- Teachers can use the information to communicate with parents about their children's proficiency and progress
- Parents and students can use the results for making educational and vocational decisions.
- Potential employers and higher educational institutions can use the information to make decisions about hiring or acceptance
- Principals, district educational officers can use the information to review and revise programming.

Assessment of learning needs the collection and interpretation of information about students' achievements in vital areas of curriculum. As holistic learning is much more than recall of facts or algorithms or learning by rote method, assessment of learning tasks need to enable students to show the complexity of their understanding. Students should be prepared to apply key concepts, knowledge, skills and attitudes in ways that are authentic and consistent with current thinking in the knowledge domain.

In 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 need to allow all students to show their understanding and establish to support credible and defensible statements about the nature and quality of their learning, so that others can use the results in appropriate ways.

Assessment of learning methods include not only tests and examinations, but also a rich variety methods of learning – portfolios, exhibitions, performances, presentations, simulations, multimedia projects, and a variety of other written, oral and visual methods.

The construction of the assessment of learning need to be done in such a way that the information upon which decisions are made is of the highest quality. Assessment of learning is designed to be summative, to produce accurate descriptions of student competence in relation to defined outcomes and occasionally, in relation to their peer's results.

**Reliability:** Reliability in assessment of learning depends on how accurate, consistent, fair and free from bias and distortion, the assessment is. Teachers need to make sure if they have enough information collection provided ample opportunity was given to all of the students, ensure consistency even when the assessment is done by another teacher and finally to cross check if the same teacher would have done the assessment at another time or in another way and got the similar results.

**Validity:** The learning results of assessment reflect the students' proficiency in wide areas of study in such a way that they are valid to measure key knowledge, concept, skills, and dispositions set out in the curriculum.

**Record – Keeping:** Teachers should keep the detailed analytic records of the results of the assessment of learning of the students. This will ensure transparency in assessments and the documentation will be helpful for the parents to see the performance of their children.

**Feedback to students:** More often than not, feedback to students has a less obvious effect on student learning with assessment of learning than on assessment for learning and assessment as learning, as in the case of the former, the results are obtained only at the end of a unit. Even so, their marks and teachers' comments will be woeful to the student for their future endeavours.

**Differentiated learning:** In assessment of learning, differentiation occurs in the assessment itself. Take the example of a near – sighted person. If he is assessed for his driving skills with naked eyes, it won't make any sense. Instead, if he is allowed to wear his spectacles and then if his driving skills are tested, it would be appropriate. Effectively, assessment results need to be accurate and detailed enough to allow for wise recommendations.

**Reporting:** Reporting of assessment of learning helps in making a target audience make reasoned decisions. Irrespective of the form of the reporting, it should be honest, fair and provide sufficient detail and contextual information so that it can be clearly understood.

To sum it up, the planning of assessment of learning should address these basic questions – Why assess? Assess what? What methods? Is the quality ensured? How the information is used?

### **Summary:**

Assessment is formative. Assessment is diagnostic in nature. Assessments are designed in a variety of ways for different purposes. Evaluation is summative form of testing. Evaluation is described as an act of passing judgement by set of standards. Assessment and evaluation are completely different. We understood the differences between Assessment and Evaluation in detail. We went on to know that there are two major scientific ways of assessments: quantitative methods and qualitative methods. We have learnt the pros and cons of both qualitative and quantitative methods of assessments and the suitability of either of them in different types of assessments. We have studied the logic of assessment.

### **To Do Activity:**

1. Write in your own words what do you understand by the logic of assessment.

### **Assessments:**

Exercise on Assessment and Evaluation

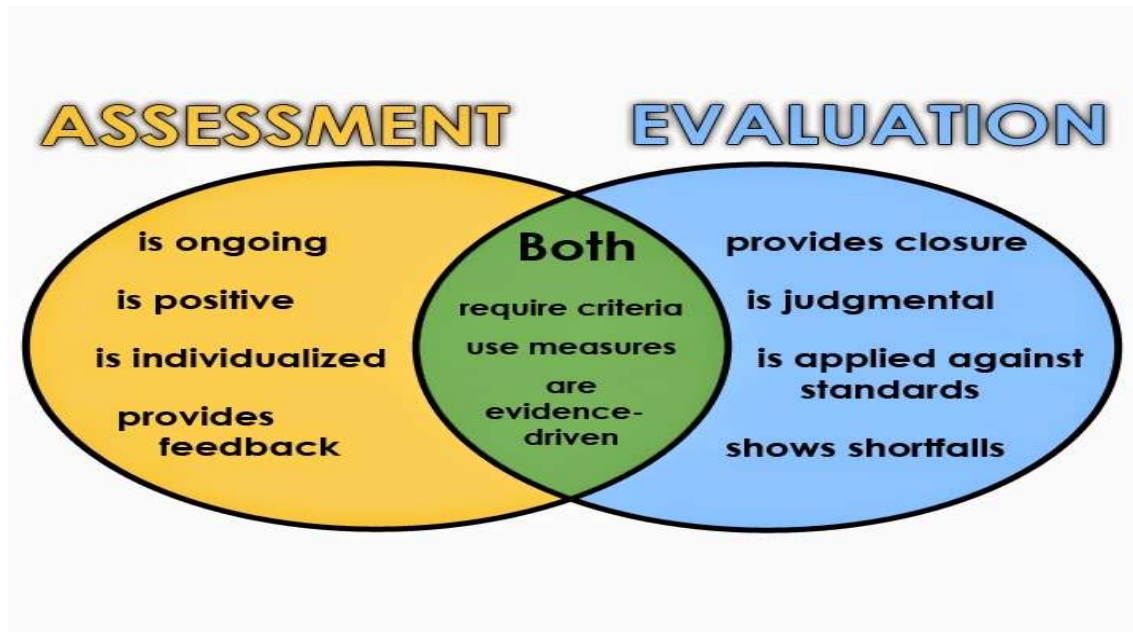


Fig. 1.5 Assessment Vs Evaluation – A snapshot

(Source:[https://www.researchgate.net/post/Is\\_there\\_a\\_difference\\_between\\_Assessment\\_and\\_Evaluation](https://www.researchgate.net/post/Is_there_a_difference_between_Assessment_and_Evaluation))



## Block 2: Forms and Methods of Assessment

**2.1: Forms of Assessment:** Among the things that teachers do for their students, assessing their work is the most important one. There are many different forms of assessment used in higher education, and below the advantages to social work and social policy students (Race, 198).

1. Examinations
2. Essays
3. Portfolios
4. Project work
5. Work based learning
6. Reviews and Annotated bibliographies
7. Self and peer assessment
8. Group work.

Having listed out the various forms of assessment, let us discuss the advantages and disadvantages in some detail.

### Examinations:

Advantages	Disadvantages
Time – efficient	Does not increase students’ desire to learn
Cost – efficient	Students play the game of guessing the agenda, so that learning can be unfocussed
Relatively easy to achieve equality of opportunity	For social work students in particular experience of learning in situations is limited
Less plagiarism. Staff are familiar with exams	Traditionally feedback is low
Encourage students to learn certain subject matters while leaving other parts, based on the past pattern of exams	Does not bridge the theory/practical gap
	Scripts are usually evaluated in a rush
	Handwriting, neatness and presentation are also assessed and there is emphasis on exam technique rather than the content
	Monotony may affect the staff who mark them on a regular basis
	Reliability and consistency may be lacking as subjectivity may affect different staff marking the answer sheets.
	Encourages surface or superficial learning, if questions are badly written
	Does not measure teamwork, leadership creativity or even lateral thinking

To get around some of the disadvantages listed above, it is suggested that the exam questions are written in such a way that there is no ambiguity of language, validity and reliability can be taken into account. Also, consider the module or unit's learning outcomes and remember to ensure all the outcomes are put to test in the exam. Write out an answer criteria for other markers and ensure that a timescale is agreed upon for script return. Finally, proof read your questions.

**Essays:**

Advantages	Disadvantages
Allows for student individuality	Can cause lack of equality as some students may never have been taught how to write essays well
Allows for demonstration of understanding of topic areas	Time consuming for the examiners
Assess writing style, a useful transferable skill for their future endeavours.	Staff may be prone to 'halo' effect
	Time consuming for the student
	Subjective marking high

To overcome the disadvantages listed above, it is suggested that students are given essay writing help by exhibiting examples of good and bad practice. Be transparent in the marking criteria for the students, so that they know where they got it right and where they got low score. Show the students what makes are allocated are allocated where if the question has several parts and give word limits. This help in avoiding the quality versus quantity issue. Lastly, offer relevant feedback and think about writing a statement of common mistakes this can minimise the time spent writing similar comments on different student essays.

**Portfolios:**

Advantages	Disadvantages
Contains evidence reflecting a wide range of skills and attributes	Time consuming for teachers in marking them
Can reflect student development and illustrate student progression	Difficult to ensure reliability and consistency between different values
Aids in job searching	Can encourage cheating as the topics could be lifted straight from others

It is pertinent that all students being assessed by this means need to have a shared understanding of the level expected of their work. It is good practice to show students relevant examples and suggest a proposed format, including suggesting a physical size, as this will help you back. If the nature of the evidence needed from students is transparent, this can aid the marking and go towards reliability between values. Preparing a marking proforma for all values should help. As portfolio building is usually time consuming, offer interim assessment opportunities so that students

can receive advice on whether the evidence they are assembling is appropriate. Consider assessing the portfolios as a team, with each giving comments, as this aids feedback to students.

**Project Work:**

Advantages	Disadvantages
Allows students to develop their strategies for taking up research	Time consuming for student and for marking staff
Help link theory to practice	Usually students are not offered opportunities to redeem themselves if they fail to finish the project or fail to meet the deadline
Students learn time management	

Projects are an ideal assessment tool for social work and social policy students as the learning by doing can be relevant to their work or future work experience. It is advisable that the learning outcomes are discussed with individual students as each project is different, but encourage different topic areas and disciplines which will allow students to demonstrate the integration of their learning. By letting the students select their own projects, scope for negotiation and discussion of learning outcomes can lead to matching making criteria. Do remember to involve information and library services so that students will be able to access relevant resources.

**Work Based Learning:**

Advantages	Disadvantages
Job prospects will increase as future employers are likely to be interested in students' work – related competencies more than academic performance.	Reliability difficult as placements tend to be individual
Bridges the theory / practice gap	Some students have better work place opportunity to provide evidence of potential while others may be considered into relatively routine work practices
Encouraging industry to play an active part in student assessment	

Increasing use is being made of assessment based on students in their workplace and care needs to be taken to ensure that consistency of equity in practice is offered from each workplace of placement. Involve the employers themselves in the assessment process, but also understand what is expected of them, and the student. Do assess different placements differently in that some

students will have a good experience while others may have an unsatisfactory experience. Consider using mentors if examiners are available and willing in the workplace. Use of a reflective journal personalises the student learning experience and although there are issues of confidentiality, negotiate ground rules with the employer/student/mentor and tutor.

**Reviews and Annotated Bibliographies:**

Advantages	Disadvantages
Encourages an active learning approach	Individualistic
Aids revision for project work and/or exams	Does the institution have enough resources to allow a large number of students undertaking this form of assessment all at once
Aids critical analytic skills	
Aids research writing by reviewing papers and articles	Can be a lonely activity and may not sustain interest for all
Allows students to be aware of different kinds of work	

As this type of assignment can be regarded as lonely for the student, it could be suggested that this is undertaken as group work. A way of allowing ownership is to negotiate areas of student interest, but don't forget suggesting that students review existing reviews to produce identifying features of good practice. Encourage high level intellectual activity by aiding student to see that reviewing is not just a matter of summarising. Setting stringent parameters and a word limit produce more reliability for examiners. Like in project work, allow library and information staff to become involved so that resources are allocated equally and consider involving these examiners as markers, so that students are offered additional feedback. This form of assessment is ideal as a formative group task and aids students' search strategies.

**Self and Peer Assessment:**

Self-assessment (SA) involves students taking responsibility for monitoring and making judgements about aspects of their own learning. As per Bond, SA can be broken down into two stages – i) Identifying standards and / or criteria to apply to an understanding of subject and ii) making judgements about the extent to which they have met these criteria and standards.

Self-Assessment can be a way of assessing the product of learning, but is a learning process in itself. It is a way of improving student learning by passing on skills of education and critical judgement to students. In this sense, the term 'self-evaluation' may be more appropriate since it is about developing students' ability to make judgement about quality of material. Thus SA can be both formative and summative.

In the same way, 'Peer Assessment' can be formative and summative, and can be a useful way of enabling students to think critically about their own work. For peer assessment, develop clear

guidelines about giving feedback to others. Self and peer assessment may help students become critical about their own work. Both enable students to develop their learning and assessment skills whilst engaged on them rather than afterwards. They may provide a structure for discussion about many arenas, which can only be substantiated by reference to other work, be used as evidence of standards engagement in process of assessment.

**Group Work:**

Advantages	Disadvantages
<p>The development of a range of skills such as chairing, organisation, group / interpersonal work and peer tutoring</p> <p>Ability to work in a team is one of the most important qualities looked for by most employers</p> <p>Team work encourages creative thinking</p> <p>Assessing group work saves time</p>	<p>Chances are that individual star performer’s performance may go unrecognised in the group</p> <p>Also-rans and free boarders may take the share in the cake, which is due to the work of the real contributors</p>

Assessing group work may be done in two ways: 1. Group moderated marks and 2. Inclusion of an individual component marked by the tutor.

Individual component in group work: Using this model, an additional mark is given for an individual component of the work, assessed by the tutor. This is then added to the group mark so that each group member can end up with a different total mark. This again is done in five ways: contracting, observation, individual reflection, viva and project exam question.

Summary: Any of the forms of assessment explained in detail above has some limitations, either for the students or the examiners (marking staff). That is precisely the reason we have discussed threadbare the advantages of each of the assessment form. Care needs to be taken to ensure that assessment is not only carried out using a single criterion. Assessment of students should be appropriate to the discipline, and allow for the diversity of the student profile. There is an ongoing argument that there is too much assessment in higher education, which encourages assesment – led students than learning – led students. It is primary to see that students are assessed based on competence as well as contents.

To sum up, assessment should be

- Valid
- Reliable and consistent
- Diverse
- Transparent
- Useful to ensure student learning is enhanced
- Promotion deep learning

**To Do Activity:**

1. Which is the most suitable form of assessment to your institution? Justify your assumption?

## **2.2 Subject based different methods of diversified assessment**

Different assessment methods allow one to assess different aspects of student learning. Having the right mix of methods means that a number of different skills can be assessed. Let us explore some possible assessment methods by examining their advantages, challenges, validity and vigour. It offers insight into how students might experience these methods as well as links to examples of these methods in practice.

These methods can be used under various conditions – under exam hall conditions, in class, at home or online. Varying these conditions reward different student abilities.

1. Annotated bibliographies
2. Blogs
3. Case studies
4. Class participation
5. Essays
6. MCQs
7. Objective tests
8. Oral presentation
9. Policy papers
10. Portfolio
11. Posters
12. Problem sets
13. Research proposals
14. Simulations and games

**Annotated Bibliographies:** An annotated bibliography is a list of academic sources followed by a short précis of around 100 – 200 words. Each entry consists of a fully referenced academic source using a particular style guides accompanied by a short notes or analysis. They may be text based or might also be online resources, audio resources, audio recording or video clips.

Advantages of annotated bibliographies:

- It gives good grounding in the topic/field
- Supports and develops research skills
- After marking, it can be shared between peer as a resource
- Keeps students focused on core messages in the texts
- Students can start working quickly as they don't need to digest all the texts before they start
- Can help students and see various perspectives

- Great study aid for later exams and essays

Challenges:

- Students are not often aware of this method of assessment, so might not know what is expected of them
- May read summaries of key texts that already exist, so the student may replicate or rephrase them without actually reading the bibliographies
- Takes more time to write an annotated bibliography than students and teachers might think
- Can be difficult to encapsulate the large texts to a shorter one, covering many areas
- Teachers can find it difficult to mark across the full scale of available marks.

**Blogs:** Blogs are a form of online assessments that require students to write short pieces at a periodic interval.

Advantages:

- Blogging requires students to write for a wider audiences, thus imparting an employability skill that is transferable
- Blogging can increase writing confidence by requiring students to write more frequently, and to use writing as an aid to thinking (Farmer et al, 2008)
- Blogging may increase interaction during contact hours (Davi et al, 2007)
- Students reading each other's blogs helps to build a learning community among course participants (Farmer et al, 2008)

Challenges:

- Writing in a less formal style is a new skill for many students, particularly for students who came from rural background and these who have studied in regional medium
- If blogging publically, students may experience negative comments from the public

**Case Studies:** Case studies usually involve real-life situations and often take the form of a problem-based inquiry approach. Students are presented with a complex real life situation and are asked to find a solution to.

Advantages:

- Enables students to apply their knowledge and skills to real life situations
- Calls on students to demonstrate a range of different skills such as the selection on information, analysis, decision making, problem-solving and presentation
- Supports the development of a range of valuable employability skills which are likely to be attractive to employers and students alike.

Challenges:

- Case studies can be a complex activity that involves negotiating a range of media that may be hard to contain in a controlled environment

- Planning and preparing for case study work can be time-consuming for teachers

**Class participation:** Class participation encourages students to participate in discussion and motivate students to engage with background reading and preparation for a learning session. Participation can take different forms – face to face, online, written, spoken, as groups, as individuals, or a combination thereof.

Advantages:

- Encourages students to actively participate in classroom activities and encourage them to take responsibility for their learning
- Encourages students to reflect on issues and problems that relate to the class
- Supports students in developing their collaborative and team-working skills

Challenges:

- Some students may not participate fully in the learning and teaching activities due to shyness, cultural or language issues
- Students may express opinions and use language that is discriminatory

**Essays:** Essays are one of the most commonly used types of assessment, requiring a student to write a continuous prose piece in response to a question or prompt. Essays are particularly used in qualitative discipline.

Advantages:

- Students' performance is less time-constrained than in an exam, and depends less on memorisation.
- As students refer sources such as academic journal – articles, monographs, etc., as they write essays, allows student engagement with sources than closed-book exam

Challenges:

- Essays may be more open to academic misconduct such as ghost-writing and plagiarism
- Grading essays objectively poses problem

**MCQs:** Multiple choice questions are the most commonly used form of objective test questions. Students have to identify correctly one or more predetermined correct responses.

Advantages:

- MCQs are relatively quick to answer
- Can easily be analysed for reliability and validity
- Don't have the limitation of language expertise

Challenges:

- It is possible to guess correct answers
- Knowledge can be customised and de-contextualised



**Objective tests:** Objective tests are questions whose answers are either correct (True) or incorrect (False). They tend to be better at testing 'low order' thinking skills, such as memory, basic comprehension and application.

Advantages:

- Marking of questions may be automated
- Can reduce the marking workload involved

Challenges:

- A common issue that is identified in the use of objective tests is that students can answer them rightly by fluke, without actually knowing the subject properly.

**Oral presentations:** The most common formal involves one or two students presenting during class time with a follow – up questions and answer sessions.

Advantages:

- Quick to mark – immediate feedback is possible
- Students are familiar with this assessment method

Challenges:

- Non – native speakers may be at a disadvantage
- A danger that 'good speakers' get good marks

**Policy papers:** This method of assessment involves students individually or in groups addressing a contemporary policy issue and then preparing it for presentation in written and / or oral form.

Advantages:

- Enables students to engage with real world issues
- Enables teachers to test both lower and higher cognitive levels

Challenges:

- Tends to assess the application of knowledge in a particular area rather than the breadth of the curriculum
- Differences between a policy paper and an academic essay / research paper may be difficult to understand for students.

**Portfolio:** A portfolio is a collection of artefacts produced at different stages across a course of study. Assessment by portfolio can provide a great deal of flexibility to the course / programme designer.

Advantages:

- A portfolio can be used to document how a student actually performs a task

- Compiling a portfolio can give students experience of documenting and presenting their achievements – an important communication skill.

#### Challenges

- Assessing portfolios may be time consuming
- The potential to over – assess students if the various elements are not balanced

**Posters:** Posters display text and visual information on a single page, board or screen. Posters can be exhibited and shared in classrooms, public spaces and digital environments.

#### Advantages:

- Offers the opportunity for taking it to a wider audience
- Provides an authentic experience

#### Challenges:

- Students may not have prior experience using image-based material for academic purposes
- Students may struggle initially to create posters that are both academically and virtually appealing

**Problem sets:** Problem sets tend to be list of exercises that students should find a solution to and are mainly used as learning activities for either home or classwork.

#### Advantages:

- Allows for both a broader and deeper testing against the course syllabus
- May provide a more complete and rounded evaluation of a students' grasp of the subject

#### Challenges:

- If feedback is only given on completed solutions, then students may miss out on valuable learning opportunities
- Problem sets are good at offering the solution but the thinking behind the solution can sometimes be overlooked.

**Research Proposals:** Students need to choose a specific aspect of the course material to investigate and ask an original question, which can increase their engagement and interest. Research related assessments can support the students' later work on a dissertation.

#### Advantages

- Developing a wider variety of types of writing and communication is useful for students' longer – term employability skills
- Can be a good opportunity to introduce group work

Challenges:

- Students more used to exams and essays may find a new format initially confusing
- Students may feel unsure of how to excel in this assessment method

**Simulations and games:** Assessment using simulations and games can take the form of class participation, student presentation or policy papers. Simulations and games involve role – play where the player is immersed in a situation virtually or physically.

Advantages:

- They allow for assessment and feedback on a range of higher order skills – application, problem – solving, evaluation and synthesis among others
- It is a progressive example of how formative and summative assessment can be aligned in the same learning activity

Challenges:

- There may be some resistance and hesitation from students and faculty regarding its adoption
- It can be time and effort – intensive, requiring significant preparation and organisation by the lecturer

**Test your learning:**

Write in your own words about the commonly used methods of assessments. Pick the most preferred ones and justify your answer.

## 2.3 Objective development of tools of assessment

Assessment tools are used to assess attitudes, interest, motivation and self – efficacy.

**Standard assessment tools:**

1. Self-Report: It is the most common measurement tool of assessment. It essentially requires an individual to provide an account of his attitude of feelings toward a concept or idea or people. They are sometimes called “written reflections”.
2. Rating Scales: It is a set of categories designed to elicit information about a quantitative attribute in social science.

The basic feature of any rating scale is that it consists of a number of categories. They are usually assigned integers.

Common examples are the Likert scale and 1 – 10 rating scales for which a person selects the number which is considered to reflect the perceived quality of a product.

3. Semantic Differential Scales (SD): SD scales tries to assess an individual's reaction to specific words, ideas or concepts in terms of rating on bipolar scales defined with contrasting objectives at each end.

Good                         Bad  
          3   2   1   0   1   2   3

The position marked 0 is labelled neutral, the 1 positions are labelled slightly, 2 positions are quite, and the 3 positions extremely.

The scales actually measures two things; directionality of a reaction (e.g., good vs. bad) and also intensity (slightly through extreme).

Generally a person is presented with some concept of interest without any other explanatory remarks.

Ratings are combined in various ways to describe and analyse the person's feelings.

A number of basic considerations are involved in Semantic Differential scales methodology.

- Bipolar objective scales are a simple, economical means for obtaining data on people's reactions.
- Rating on bipolar adjective scales tends to be correlated, and three basic dimensions (Evaluation, Potency and Activity) of response account for most of the co –variation in ratings.

Some adjective scales are almost pure measures of the EPA dimensions: for example, good – bad for Evaluation, powerful – powerless for Potency and fast – slow for Activity. Measurement of a concept on the EPA dimensions is referred to as the concept's profile.

EPA measurements are appropriate when one is interested in effective responses. The SD has been used as a measure of attitude in a wide variety of projects.

### **Thurstone and Likert Scales:**

Thurstone is considered to be the father of attitude measurement. He addressed the issue of how favourable an individual is with regard to a given issue. He developed an attitude continuum to determine the position of favourability on the issue.

In 1932, Likert developed the method of summated ratings (or Likert's scale). Each Likert scale consists of several Likert items. A Likert item is an individual statement or question, which assess a person to indicate the extent to which they agree by choosing one of several ranked options. Likert items usually offer participants a choice of five or seven ranked options, with the middle one being 'neutral'. It is still widely used tool.

Likert scale is a unidimensional scaling method. It measures a factor which is one –dimensional in nature. Likert scale is also called a summative scale as the final score for the respondent on the scale is the sum of their ratings for all the Likert items.

Let’s see the basic steps in developing a Likert scale:

1. Defining the focus: The first step is to define what is that you are trying to measure
2. Generating the items: Next, you have to create the set of potential scale items. These should be items that can be rated on a 1 – to – 5 or 1 – 7, Disagree – Agree response scale. It is desirable to have a large set
3. Rating the items: The next step is to have a group of judges rate the items.

Strongly Disagree    Disagree    Neutral    Agree    Strongly Agree  
 ( )                      ( )                      ( )                      ( )                      ( )

4. Selecting the items: The next step is to compute the interrelation between all pairs of items, based on the ratings of the judges. In making judgements about which items to retain for the final scale throw out any items that have a low correlation with the total (summed) score across all items, also, for each item get the average rating for the top quarter of judges and the bottom quarter to ensure that the items selected have Item – Total correlations and high discrimination.
5. Administering the scale: Finally, you are now ready to use your Likert scale. Each respondent is asked to rate each item on some response scale. For example, they could rate each item on a 1 – to 5 response scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Undecided (neutral), 4 = Agree, 5= strongly agree.

1	2	3	4	5	I feel good about my work on the job
1	2	3	4	5	On the whole, I get along well with others at work
1	2	3	4	5	I am proud on my ability to cope with difficulties at work
1	2	3	4	5	When I feel uncomfortable at work, I know how to handle it
1	2	3	4	5	I can tell that other people at work are glad to have me there
1	2	3	4	5	I know I’ll be able to cope with work for as long as I want
1	2	3	4	5	I am proud of my relationship with my superior at work
1	2	3	4	5	I am confident that I can handle my job without constant assistance
1	2	3	4	5	I feel like I make a useful contribution at work
1	2	3	4	5	I can tell that my co – workers respect me

**Tab. 1.6 Example showing job satisfaction using Likert scale**

Let's see an easy example for Likert's scale:

1. Google is a user friendly search engine	( )	( )	( )	( )	( )
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2. Google is my first choice in search engines	( )	( )	( )	( )	( )
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3. Google's suggestions are mostly closer to what you search	( )	( )	( )	( )	( )
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4. Google surprises us with the choices when searching	( )	( )	( )	( )	( )
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5. Searching using with Google is a child's play	( )	( )	( )	( )	( )
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

**Thurstone Scales:** The Thurstone scale is made up of statements about a particular issue and each statement has a numerical value indicating the respondent's attitude about the issue, either favourable or unfavourable. The respondents indicate which of the statements with which they agree and the average response is computed. The surveyor needs to be very clear about what exactly it is that he is trying to measure and then collect statements on the topic ranging from attitudes that are favourable to unfavourable.

Next, judges have to evaluate on an 11 point rating format ( 1 – very negative to 11 – very positive), the kind of attitude each of these statements reflects.

Let's assume that the average ratings among our judges are as follows:

<u>Example statements</u>	<u>Average</u>
A unique identification like AADHAAR is necessary for our country	8.6
AADHAAR will help in identifying benami accounts and transactions	7.6
Any misuse of a mobile connection by anti-social could be easily traced when his mobile link is linked to his AADHAAR number	6.8

Financial transactions will become transparent with the linking of AADHAAR to the account holder's details like PAN	3.2
AADHAAR intrudes into the privacy of the lives of the citizens	1.3
AADHAAR biometric data when hacked may cause heavy loss to individuals	2.4
AADHAAR data gives total control of individuals to the state, which is undesirable	1.5
AADHAAR ensures Direct Benefit Transfer to beneficiaries of subsidies and schemes	9.1
AADHAAR paves way for more transparency and less corruption in the implementation of the government welfare schemes	8.4
India is a diverse country and a unique identification like AADHAAR will not help, as 'one size, fits for all' doesn't work	2.0
Already there are various numbers like PAN, Ration card, NRS and as such why bother the public with yet another identity proof?	1.7

Assuming that there is a reasonable consensus among the judges for the above items, when administering the scale, we would ask individuals to indicate which of the above they agreed with. Finally, the average of these checked would be calculated to determine the individual's attitude. Limitations in developing Thurstone scales include – 1. It can be quite time consuming and quite expensive, and 2. Examples for the mid-points of scale for which there is consensus among the judges can be difficult to obtain.

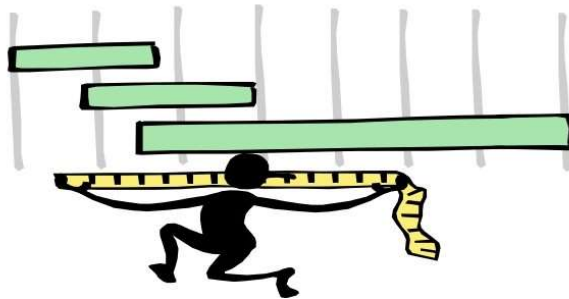
**Guttman Scales:** In 1994, Guttman suggested that attitude should be measured by multidimensional scales, as opposed to unidimensional scales, such as those developed by Thurstone and Likert. He developed the Scalogram analysis, cumulative scaling, what is later came to be commonly called, Guttman scaling. The major characteristic of this scale is that the response to one item helps predict the responses to other systems.

Let's understand it clearly with an example. For instance, if an individual responds negatively to the item, 'I like fruits', he is not likely to respond positively to the item, 'an apple a day keeps the doctor away', or 'which is your favourite fruit?'

With a Guttman scale, we have a set of statements that a respondent, who agrees with specific statement in the list, will also agree with all previous statements. To make it better for understanding, each statement subsumes the lower order statements. For example, a scale designed to measure post-traumatic stress syndrome, illustrated below using the Guttman scaling technique.

Scale score	Scale item
0	In service 1995 – 2000
1	Stationed in Kargil sector

2	Saw injury and / or death of Indian army man
3	Fired weapon / fired upon in military operations
4	Responsible for death of enemy military
5	Wounded in combat
6	Responsible for enemy civilian
7	Served the duty in Kargil sector



*“If a thing exists, it exists in some amount; and if it exists in some amount, it can be measured.”*

*–E. L. Thorndike (1914)*

**Fig 1.5 Scales**

**Checklists:** The most common and perhaps the easiest assessment tool to construct is the Checklist. A checklist consists of simple items that the student or teacher marks as ‘absent’ or ‘present’.

Steps in the construction of a Checklist: List out all the attributes and characteristics you wish to observe relative to the concept being measured. For instance, if the concept is ‘interpersonal relation’, then you might want to identify those indicators or attributes, which constitute an evidence of good interpersonal relation. Arrange these attributes as a ‘shopping list of characteristics. Ask the students to mark these attributes which are present and to leave a blank those which are not.

**Test your learning:**

1. Illustrate with an example how you prepare a questionnaire to measure the attitudes.
2. Which scale is better in your understanding? Justify your answer.

**2.4 Formative Assessment Tools**

Let us find the right in-class formative assessment tools. It is not necessarily be an insurmountable task. First, we’ll define the characteristics of effective formative assessment. Then we’ll give



examples of the quickest and enriching tools for you to use. Formative assessment tools can be a part of every teacher's toolbox. They needn't be complicated or time-consuming. There are a few things that are crucial to their effectiveness. Great formative assessment should have the following facets:

**It should be goal-oriented.** It is derived from what we do every day. It is directed at guiding students towards performing well. It should be specific, significant, stretching, measurable, meaningful, motivational, Attainable and meaningful.

**It needs to focus on higher-order thinking skills.** It is not just basics. We want to know if they are applying, analysing, evaluating, and creating.

**It should hold students accountable for individual performance.** Group assessment is useful in itself. Also, accurately identifying the exact needs of the individual will give you direction to steer your instruction. This sets the students up for success.

**It should be seamless.** Don't change your routine to fit the test. Some formative assessments have a steep learning curve. Others are easy to grasp even for the amateurs. You might need to build your formative assessment into your lesson. Some of it can be improvised, and some will need to be planned.

#### **Quick and Useful Formative Assessment Tools**

It's time to get some great formative assessment tools into your toolbox. Hopefully, this list will give you some ideas and start-off points.

**Signs-** These are easy and also incorporate a sense of self-assessment. It is non-scary way of allowing students to be truthful about their responses. The teacher does not pass judgment but can gauge a percentage of how much he or she needs to reteach.

**Yes/No cards**—the teacher will ask a question. Students respond by holding up the appropriate card, whether they know the answer or not. In this way, they self-assess their assuredness on a topic. Teacher reteaches what is needed, or gives differentiated help to those in need.

**Thumbs up/Down**— this works the same way as Yes / No cards. Students just use thumbs like at the end of a live show.

**Colour Cards**—Students rate their knowledge as:

Red (I'm completely lost)

Yellow (Slow down, I'm struggling a bit)

Green (I've got it, it's all good)

**1-2-3 Fingers**— this works the same way as that of colour cards. Students hold fingers up to respond:

1 finger (Lost)

2 fingers (Not quite lost, but searching)

3 fingers (Understood completely)

**Writing** - These activities assess understanding and the student's ability to write and formulate ideas. Writing capability and fine motor dexterity will vary among your students. Take this into consideration, especially if you're timing it.

**Invent the Quiz**— what better way to gauge comprehension than by getting students to write their assessments themselves? Instead of answering someone's questions, they would be answering their own questions and this way they'll be ready for the final.

**Opinion Chart**— this can be in the form of a T-chart (e.g. Left = Opinions; Right = Support).

**Mind Map**—Mind Maps should be taught, so plan this ahead of time. It's a great self-assessment tool to use as students get older.

**KWL (Know, Want, Learn) Charts**—KWL charts let students organize and analyse information from a lesson. They are also great critical thinking tools that get students interested in new topics. They ask these three questions:

What do you know already?

What do you want to know?

What did you learn?

**321 Charts**—3 things you learned; 2 interesting things; 1 question you still have. You can add variations to each of these as well. Some suggestions are below:

Things that surprised you

Things that have inspired you

The people you will discuss what you've learned with

Action or actions you're going to take starting now

**Arts** - Creative types will love these. Going out on a limb and showing off their aesthetic skills are what some children crave.

**Illustration/Sketch**—Use pictures to establish connections and explain them.

**Advertisement/Pamphlet/Multimedia Poster/Infographic**— you can have students use innumerable tools for this. You can also go old school and use traditional materials.

**Comic Book**—Use tools like Pixton or Comic Master tools to illustrate a concept. Or again, go old school and draw freehand.

**Think-Ink-Pair-Share**—Time is given to think about a topic. Students then write down their thoughts, pair up with another student and share what they've written.

**Talking** - How can we forget the good old conversation style of knowledge sharing? Face-to-face interaction remains the best engagement and collaboration avenue for students.

**Four Corners**—Corners of the room are labelled “Strongly Agree, Agree, Disagree, and Strongly Disagree.” Statements are read aloud and students go to their respective corner. This is then followed by open discussion.

**Top 10 List (with humour)**—these kinds of lists focus on the big important ideas.

**Movement** -These are great ice breakers. Get-up-and-stretch physical activities get the blood pumping and the brain working. Movement boosts enthusiasm, too.

**Carousel Brainstorm**— large sheets of paper are placed around the room with topics at each top. Groups go around to each chart, brainstorming their ideas on the topic. When the “carousel” stops, students discuss their findings.

**Turn and Talk**— this simple discussion tactic is used to great effect in lectures and keynotes. The teacher asks a thought-provoking question about the topic. Students “turn” to the person beside them and discuss the answers with each other.

**Talk Show Panel**—Students are assigned a position about a topic (whether they agree or disagree). They need to internalize the position and then discuss it in a panel, debate-style.

**Podcasting**—Tools like Easy Podcast, djPod, Podbean, or Audacity make it easy. Students can speak as the expert on a topic with a podcast. It’s a great exercise for media knowledge and creativity, as well as oral skills.

**Dramatic Interpretation**—Enact scenes from a book or any concept for that matter. Imagination is the entry ticket here.

**Misconception Check**—the teacher states a common misconception about a topic. Students agree or disagree, and discuss.

### **Some Parting Words on Formative Assessment Tools**

The beauty of formative assessment is that it’s done while the students are still learning. Fast and fun formative assessment tools are perfect for checking in along those learning journeys. One last piece of advice is to choose one formative assessment and make it your own. Trying too many things at a time is not advisable. Use one until the kids know how to do it, and you know how to process the results.

#### **Summary:**

There are many different forms of assessment. Each of the types of assessments like Examinations, Essays, Portfolios, Project work, Work based learning, Reviews and Annotated bibliographies have their own advantages and disadvantages. We have studied the objective development of tools of assessment. We have studied in detail various Rating scales with illustrations.

#### **To Do Activity:**

1. Name some of the formative tools of assessment and explain briefly with some examples.

### Block 3: Levels and Framing of Questions

**3.1 Levels of questions:** Questioning is done in classrooms for many purposes. It crosses nearly all the areas of performance in teaching. Questioning is not a unitary skill. It is an entire toolbox and the tools selected should be matched to the instructional purpose. All children need to be engaged in conversation with higher-level thinking questions. This is especially important for children who are low in academic proficiency. Questions should be planned when we are planning lessons and planned with more specificity and detail than many of us are used to doing. More importantly, students should be taught to ask questions.

Questions are tools for accomplishing tasks. Question asking is not an independent and self-contained skill. A question is one of the tools for stimulating many important student cognitions: framing, activating, connection making, analysing, extending, applying, inferring, conjuring implications, checking for understanding, identifying points of confusion, implementing a model of teaching, summarizing and other tasks.

The goal of classroom questioning is not to determine whether students have learned something, but rather to guide students to help them learn necessary information and material. Questions should be used to 'teach' students than to just 'test' students. Observations of teaching at all levels of education reveal that most spend more than 90 percent of their time testing students through questions. Studies consistently show that about 60 percent of questions are 'recall' or factual questions. The figure can rise to 80 percent recall in some classrooms (Cotton, 2000). Only 20 percent are of higher level. These are not good statistics for preparing students adequately for the twenty first century world.

Factual questions just test the knowledge or recall function of the students, only test short-term memory and as such belong to lower level questioning and will not help in enlarging the creative capability of the student. Students tend to read and think based on the kinds of questions they anticipate receiving from the teacher. Students who are given questions based on higher levels of thinking, like evaluation or application related, will tend to think more creatively and divergently and as such can face the challenges of the real world growing up.

Way back, an educator named Benjamin Bloom developed a classification system, which later came to be known as '**Bloom's taxonomy**', to assist teachers in recognizing their various levels of question-asking. The system contains six levels, which are arranged in hierarchical form, moving from the lowest level of cognition (thinking) to the highest level of cognition (or from the least complex to the most complex).

1. Knowledge or Recall
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

**Knowledge:** This is the lowest level of questions to recall information. Recall questions usually require students to identify information in basically the same form it was presented. Some examples of knowledge questions include –

“How many states and union territories are there in India?”

“Who wrote War and Peace?”

“What is the capital of United States of America?”

Words often used in knowledge questions include – know, who, define, what, name, where, list and when.

**Comprehension:** Comprehension is the way in which ideas are organised into categories. Comprehension questions are those that ask students to take several bits of information and put them into a single category or grouping. These questions are different from the knowledge questions in the way that they go beyond simple recall and require students to combine data together.

Examples of comprehension questions are

“How would you recharge the ground water?”

“What is the central theme of the story you read now?”

“If I put these blocks together, what is the shape of the resulting block?”

Words often used in comprehension questions include describe, use your own words, outline, discuss and compare.

**Application:** This type of questions involves carrying out or using a procedure through executing or implementing. Teachers ask students to take information they already know and apply it to a new situation. To cap it up, they need to use their knowledge to determine a correct response. Some examples Application questions include –

“How would you communicate to others, the location of your residence?”

What happens when you multiply each of these numbers by three?”

“If you have two separate interconnecting water tanks, fixed at the same level, how would you ensure that water levels are same in both?”

Words often used in Application questions include – apply, manipulate, put to use, employ, dramatize, demonstrate, interpret and choose.

**Analysis:** An analysis question is one that asks a student to break down something into its component parts. For answering the analysis questions, students have to identify reasons, causes, or motives and reach conclusions or generalizations.

Some examples of analysis questions include –

**“What causes cavities in teeth?”**

**“Why did Kargil war happen?”**

**“Why do we call some of the animals mammals?”**

Words often used in analysis include analyse, why take apart, draw conclusions, simplify, distinguish and survey.

**Synthesis:** Synthesis questions invite students to produce original ideas and solve problems. Synthesis questions challenge students to engage in create and original thinking.

Some examples of synthesis questions include –

**“How would you assemble these items to create a solar power station?”**

**“How would your life be different if you are gifted with wings?”**

**“Construct a tower one foot tall, using only four blocks?”**

**“Put these phrases together to construct a meaningful paragraph.”**

**Evaluation:** Evaluation questions are framed to make an individual judge something. We are asked to judge the value of an idea, a candidate, a work of art, a solution to a problem. Engaging students in decision – making and problem – solving helps them in thinking at this level. There are no single right answers for evaluation questions.

Examples of evaluation questions include –

**“What do you think of the syllabus for your class?”**

**“What movie did you like the most and why?”**

**“Do you think death punishment will help in reducing the heinous crimes?”**

**“Why do you think Ramanujam is such a famous personality?”**

Words often used in evaluation questions include judge, rate, assess, evaluate, what is the best..., value, criticize and compare.

Anderson and Krathwohl (2001) updated the original Bloom framework by adding the four kinds of knowledge to be learned to the picture: factual knowledge, conceptual knowledge, procedural knowledge and meta-cognitive knowledge. In addition, they redefined Bloom’s “Synthesis category” as “Creating”, by which they mean “putting together elements together to form a coherent or functional whole reorganising elements into a new pattern or structure through generating, planning or producing” (Fisher, 2005). They define the other basic cognitive processes as follows:

**Remembering** (the old “Recall” category) – retrieving, recognizing and recalling relevant knowledge from long –term memory.

**Understanding** (the old “Comprehension category) - constructing meaning from oral, written and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing and explaining.

**Applying,**

**Analysing,**

**Evaluating and**

**Creating**

General perception of the teachers is that primary – level students can only handle lower level questions (knowledge questions), but not the higher level questions (Application, analysis, synthesis, evaluation). This is an absolute myth. No scientific proof is available to validate this perception. Challenging all students through higher – order questioning is one of the best ways to stimulate learning and enhance brain development – regardless of age. It simply means, you ask your students different levels of questions. If you limit the questions focused at one level, then your students might not be exposed to a complete understanding of a topic. Questions need to comprise of a range from lower – level to higher – level thinking questions. Bloom’s taxonomy is not grade – specific. The six levels of questions are appropriate for all levels of students and grades.

**3.2 Framing of questions:** Framing refers to how important issues are presented or 'framed' in a survey question. Which aspects of a larger issue should be tapped? Which set of policy alternatives should be offered to respondents? Should India have one national capital in Delhi, for example, and a second in Hyderabad? Or, should the question ask about changing the status quo? Again, as an example, should it be in seasons other than in winter at Delhi, where it presently is, or should it be moved to Hyderabad during winter? These questions may yield quite different results, with very different political implications.

While different frames can yield significantly different results, decisions about which frames to use are almost impossible to resolve and will almost always invite criticism from some part of the political spectrum.

A powerful question can help in breaking out of incremental tendencies. Incrementalism allows us to believe we are doing OK because we are busy and getting better at something every day. It is like we are yesterday + something = today. In a daily changing dynamic world, incrementalism won't help. A powerfully framed question can pop that bubble of complacency and helps in extending the boundaries and limitations. Framing a powerful question is a way for a workgroup to step back and ask – is this what we should be doing? What else is possible? Is the group's shared outcome still the most relevant and important thing we should be focused on to have more impact? Framing a powerful question can help us not only adapt to change, but use it to break new ground.

Framing a powerful question might help in periodically stopping back from the immediate demands and considering what has changed and what hasn't.

A powerful question is –

**Authentic:** Power questions should stretch our limits and expose to things we don't know till then

**Compelling:** A powerful question should pull people out of an incremental mind-set.

**Open-ended:** A powerful question should result in things opening up, far from inspiring a single, definitive answer. At the same time, it shouldn't be fuzzy or vague.

**Focused:** A powerful question should challenge the why and the what, as well as who, how where and when. These questions allow the respondent to answer spontaneously, on their own terms. Rather than asking people to rate the importance of several possible reasons for choosing a particular product, on a scale of 'very important' to 'not important at all,' one might ask them, 'What are the most important reasons for your choosing the product?' Then, they have the advantage of not presuming what needs to be proven.

Open-ended questions have some limitations. They are very expensive. Most survey companies will allow for only three to four in their normal quotations. A typical question, such as 'what are the most important problems facing the country?' may get dozens of unique responses. All of them have to be



examined and categorised or 'coded' into broader categories that are considered useful. This is a very time consuming process and drives up labour costs considerably.

**Actionable:** A powerful question should come out of deep thought and reflection, backed by commitment to act. It should result in qualitative change in actions, rather than answers. A rightly framed question can animate a group and may result in brainstorming. It should prime the imagination, focus passion, and motivate accelerated performance.

For every one question, there are sub-questions to unpack

- What assumptions am I making that make this seem impossible?
- What are the leverage points that might make it possible?
- Does the question fundamentally revolve around value creation and impact efficiency

### **One-sided vs. Forced-choice Questions**

'One-sided' questions ask people to agree or disagree with a statement, to favour or oppose some stand, or to state some degree of an opinion. With 'forced-choice' questions, the researcher attempts to provide balanced alternatives, such as, 'do you favour the incumbent government to get re-elected or you prefer a change?'

'Agree' or 'disagree' response sets tend to bias results in favour of the 'agree' response, especially when knowledge is low. Less educated respondents with little political experience may be especially susceptible to these effects. When people have given little thought to a topic, they are less likely to develop counter arguments against one-sided statements and are more likely to accede.

The typical solution is to offer respondents a second, or even a third, practical alternative--a forced choice. This provides respondents with a counter argument. This possibly decreases the number of people favouring the first alternative in a single-sided format and also changes the distribution of opinion. Yet the strength of the arguments and alternatives presented is important--not all are equally effective. Creating a second viable alternative also places researchers in the awkward position of shaping public opinion by deciding which alternatives to include as well as the substance of those alternatives.

### **Double-barrelled Questions**

One pitfall to be avoided is the 'double-barrelled' question. In a double-barrelled question, the alternative is coupled with a solution. To show it with an example, let us see one such double-barrelled question:

'Do you approve of a tax increase to end the budget deficit?'

Respondents may not be clear about what their response will mean.

Does a 'yes' mean they approve of the tax increase, for example, or getting rid of the deficit, or both?

A 'one-and-a-half barrelled question' contains qualifications that lead respondents toward choosing a specific alternative.

Some variations of powerful questions that have inspired real workgroups and organizations:

Why do we create appliances for our customers instead of with them?

How can we make innovative products that the market wants – while it still wants them?

If we are 'best of the best', why are attacks not disappearing, instead actually increasing?

How do we reap good crops, without the use of environmentally harmful chemical pesticides and fertilizers?

Framing of questions should result in facilitating to explore, 'know what we don't know'.

Framing of questions.....from the pages of history:

Generally the best way of asking a question is to address the whole class. Each pupil should understand that he may be expected to reply. In stating the question, no sign should be there that would indicate who has to answer it. The main thing is to ensure that every student is held on the alert surmising the possibility of him being asked to answer the question. Each question should be given to that student, who stands in most need of receiving it (John Miller, 1897).

**To Do Activity:**

1. Discuss various ingredients to write powerful questions.

Easy to remember, ready reckoner to understand the different levels of questions, as per Bloom's Taxonomy

Level 1 – KNOWLEDGE		
Key words		Sample Questions
Who	Spell	What is....?
What	Show	Who was...?
Select	Label	How is....?
Recall	How	Where is.....?
Relate	Name	How did _____ happen?
Tell	Match	When did _____ happen?
Define	Choose	Why did .....?
Where	Find	When did.....?
Which	Why	How would you show....?
Omit	When	Who were the main...?
		Which one.....?
		Which one...?
		How would you describe...?
		Can you recall....?
		Can you select...?
		Can you list the three....?

Level 2 – COMPREHENSION		
Key words		Sample Questions
Compare	Summarize	What is the main idea of....?
Extend	Interpret	What facts or ideas show.....?
Rephrase	Outline	Can you explain what is happening....?
Contrast	Show	What does _____ mean?
Illustrate	Explain	How would you classify the type of ....?
Translate	Relate	How would you compare....?
Demonstrate	Classify	How would you contrast....?
Infer		Put in your own works....
		How would you rephrase the meaning of.....?
		What statements support....?
		What can you say about.....?
		Which is the best answer?
		How would you summarize...?

Level 3 – APPLICATION		
Key words		Sample Questions
Apply	Utilize	How would you use.....?
Build	Organize	What examples can you find to....?
Choose	Model	What would happen if.....?
Construct	Plan	What parts would you choose to change...?
Develop	Identify	How would you solve_____ using what you've learned?
Interview	Select	How would you organize _____ to show.....?
Make us of	experiment	How would you show your understanding of ....?
Solve		What approach would you use to....?
		How would you apply what you learned to ....?
		What other way would you select to show....?
		What questions would you ask in an interview with....?

Level 4 – ANALYSIS		
Key words		Sample Questions
Analyse	Theme	Why do you think....?
Discover	Assumption	What are the parts or features of....?
Simplify	Compare	How is _____ related to.....?
List	Examine	What motive is there...?
Motive	Test for	Can you list the parts....?
Categorize	Relationships	What inference can you make...?
Dissect	Conclusion	How would you classify....?
Survey	Contrast	How would you categorize...?
Distinction	Inspect	What evidence can you find....?
Inference	Distinguish	What is the relationship between....?
Classify	Function	What is the function of....?
Divide	Take part in	What ideas justify....?

Level 5 – SYNTHESIS		
Key words		Sample Questions
Build	Compile	What change would you make to solve....?
Construct	Develop	How would you improve.....?
Formulate	Make up	What would happen if....?
Plan	Solve	Can you elaborate the reason...?
Suppose	Change	Can you propose an alternative...?
Improve	Maximize	Can you invent....?
Theorize	Happen	How would you adapt ___ to create a different...?
Choose	Compose	How would you change or modify the plot...?
Create	Estimate	What could be done to minimize or maximize...?
Imaging	Originate	What way would you design....?
Predict	Solution	What could be combined to improve....?
Discuss	Original	Suppose you could _____. What would you do...?
Adapt	Delete	How would you test....?
Elaborate	change	Can you formulate a theory for ....?
		Can you think of an original way for the....?
		Can you predict the outcome if.....?

Level 6 – EVALUATION		
Key words		Sample Questions
Award	Measure	Do you agree with the actions.....? Why or why not?
Defend	Rule on	Who would you prove or disprove....?
Choose	Opinion	What is the value of ....?
Conclude	Criteria	Would it be better if....?
Criticize	Perceive	Why did the character choose...?
Decide	Compare	What would you recommend...?
Justify	Select	How would you rate....?
Recommend	Interpret	What would you cite to defend the actions....?
Prioritize	Prove	How would you evaluate...?
Importance	Value	What choice would you have made...?
Influence	Mark	What would you select...?
Determine	Agree	How would you prioritize...?
Dispute	Explain	What judgment would you make about...?
Evaluate	Disprove	Why is it better...?
Judge	Deduct	
Appraise	Rate	
Support	assess	

**Summary:**

Questions are classified in six levels of questioning by the educator Bloom. We have developed a system for this, which is named as Bloom’s Taxonomy after his name. Detailed study was taken up for each of them. Framing of questions is the key aspect to elicit appropriate answers. A powerful question can help breaking out of incremental tendencies. Examples of different types are questions are listed.

**Summary:**

In this block, we have studied about the evaluation criteria for assessment. We have discussed the types of rubrics and how to prepare one.

**To Do Activity:**

1. Frame at least 6 questions and identify them as belonging to different levels of questions.

## Block 4: Objective Development of Evaluative Criteria for Assessment

**4.1 Evaluation Criteria:** By using a set of established criteria aligned with targeted outcomes, it is fairly possible to consistently and defensibly make a judgement – based evaluation of students' performances.

**Types of Evaluative criteria:** There are four general categories or criteria that can be used to evaluate student work depending on the targeted standards or outcomes and the purpose of the performance task. The four criterion types focus on evaluating control; focus on evaluating control, process, quality and impact.

1. 'Content' criteria are used to evaluate the degree of a students' knowledge and understanding of facts, concepts and principles.
2. 'Process' criteria are used to evaluate the proficiency level of performance of a skill as well as the effectiveness of the methods and procedures used in a task.
3. 'Quality' criteria are used to evaluate the overall quality and craftsmanship of a product or performance.
4. 'Impact' criteria are used to evaluate the overall quality and craftsmanship of a product or performance given its purpose and audience.

Criteria – based evaluation tools : Once the key criteria have been identified for a given performance (based on the targeted standards / outcomes), we can use them to develop more specific tools used to evaluate student performance – criterion list, holistic rubric and analytic rubric.



Fig 4.1 Evaluation Criteria for assessment

Criterion list: A basic and practical tool for evaluating student performance consists of a listing of key criteria, sometimes referred to as a performance list. Here are the following four key criteria that they used in evaluating student art portfolios.

**Composition** – Effective use of elements of art and principles of design in organizing space

**Originality** – Evidence of development of unique ideas

**Visual impact** – Sensitivity in use of line, colour and form to effectively convey ideas and onward

**Craftsmanship** – Skill in use of media tools and technique. Attention to detail and care for results.

Here's an example of a criterion list for composing a fairy tale.

Key Criteria:

1. Plot – The plot has a clear beginning, middle and end that are carried throughout the tale.
2. Setting – The setting is described with details and shown through the events in the story.
3. Characterization – The characters are integrating and fit the story.
4. Details – The story contains descriptive details that help explain the plot, setting and characters.
5. Fairy tale elements – The story contains the elements of a fairy tale.
6. Pictures – Detailed pictures are effectively used to help tell the story.
7. Mechanics – The fairy tale contains correct spelling, capitalization and punctuation. There are no errors in mechanics.

Well-developed criterion list identify the key elements that define success on a performance task. They communicate to students how their products or performances will be judged and which elements are most important. Despite these benefits, criterion lists do not provide details descriptions of performance levels. In other words, there are no qualitative descriptions of the difference between a '15' and a '9' rating for a given element (or a full smile versus partial smile on the pumpkin). Thus, different teachers using the same performance list may rate the same performance list may rate the same student's work quite differently.

Well-crafted rubrics can address this limitation. A rubric is based on a set of criteria and includes a description of performance levels according to a fixed scale (e.g. 4 points).

## RUBRICS as Assessment Tools

Rubrics can be excellent assessment tools to evaluate students' work for several reasons. You might consider developing and using rubrics if:

- You find yourself re-writing the same comments on several different students' assignments.
- Your student evaluation load is high, and writing out comments takes up a lot of your time.
- Students repeatedly question you about the assignment requirements, even after you've handed back the corrected assignment.
- You want to address the specific parts of your marking scheme for student and instructor use, both prior to and following the assignment submission.
- You find yourself wondering if you are grading or commenting equitably at the beginning, middle, and end of a grading session.
- You have a team of graders and wish to ensure validity and inter-rater reliability.

Let's study three types of rubrics.

**Holistic Rubric:** A holistic rubric provides an overall rating of a student's performance, typically yielding a single score.

Holistic rubric for a scientific investigation

4 – The student's investigation includes a stated hypothesis, follows a logical and detailed procedure, collects relevant and sufficient data, thoroughly analyses the results, and reaches a conclusion that is fully supported by the data. The investigation process and conclusion are clearly and accurately communicated in writing so that others could replicate the investigation.

3 – The student's investigation includes a hypothesis, follows a step – by – step procedure, collects data, analyses the results, and reaches a conclusion that is generally supported by the data. The process and findings are communicated in writing with some omissions or minor inaccuracies. Other could most likely replicate the investigation.

2 – The student's stated hypothesis is unclear. The procedure is somewhat random and sloppy. Some relevant data is collected but not accurately recorded. The analysis of results is superficial and incomplete and the conclusion is not fully supported. The findings are communicated so poorly that it would be difficult for others to replicate the investigation.

1 – The student's investigation lacks a stated hypothesis and does not follow a logical procedure. The data collected is insufficient or irrelevant. Results are not analysed, and the conclusion is missing or vague and not supported by data. The communication is weak or non-existent. Since they yield an overall rating, holistic rubrics are well suited for summative evaluation and grading. However, they typically do not offer a detailed analysis of the strengths and weaknesses of a student's work, and are thus less effective tools at providing specific feedback to learners.



Holistic rubrics can also present a challenge for teachers when they are evaluating a student's complex performance having multiple dimensions. For example consider two different students who have completed a graphic design project. One student uses visual symbols to clearly communicate an abstract idea. However, her design involves clipart that are sloppily posted onto the graphic. A second student creates a beautiful and technically sophisticated design, yet this main idea is trivial. How could those respective pieces be scored using a holistic rubric? Often the compromise involves averaging, whereby both students might receive the same score or grade, yet for substantially different reasons. Averaging obscures the important dimensions in the student's performance and doesn't provide the student with detailed feedback. If all a student receives is a score or rating, it is difficult for them to know exactly what the grade means or what refinements are needed in the future.

**Analytic Rubric:** An analytic rubric divides a performance into distinct elements or traits and judges each independently. Analytic rubrics are well suited to judging complex performances (e.g., multi-faceted problem solving or a research project) involving several significant dimensions. As evaluation tools, they provide more specific information (feedback) to students, parents and teachers about the strengths of a performance and the areas needing improvement.

Let's consider an example of an analytic rubric for mathematical problem solving.

4 – An efficient and effective strategy is used progress towards a solution is evaluated. Need based adjustments in strategy are made or alternative strategies are considered. There is sound mathematical reasoning throughout. All computations are performed accurately and completely. There is evidence that computations are checked. A correct answer is obtained.

Abstract or symbolic mathematical representations are constructed and refined to analyse relationships, clarify or interpret the problem elements, and guide solutions. Communication is clear, complete and appropriate to the audience and purpose. Precise mathematical terminology and symbolic notation are used to communicate ideas and mathematical reasoning.

3 – An effective strategy is used and mathematical reasoning is sound. Computations are generally accurate. Minor errors do not detract from the overall approach. A correct answer is obtained once minor errors are corrected. Appropriate and accurate mathematical representations are used to interpret and solve problems. Communication is generally clear. A sense of audience and purpose is evident. Some mathematical terminology is used to communicate ideas and mathematical reasoning.

3 – An effective strategy is used and mathematical reasoning is sound. Computations are generally accurate. Mirror errors do not detract from the overall approach. A correct answer is obtained once minor errors are corrected. Appropriate and accurate mathematical representations are used to interpret and solve problems. Communication is generally clear. A sense of audience and purpose is evident. Some mathematical terminology is used to communicate ideas and mathematical reasoning.

2 – A partially correct strategy is used, or a correct strategy for only solving part of the task is applied. There is some attempt at mathematical reasoning, but flaws in reasoning are equivalent.

Some errors in computation prevent a correct answer from being obtained. An attempt is made to construct mathematical representations, but some are incomplete or inappropriate.

Communication is uneven. There is only a vague sense of audience or purpose. Everyday language is used or mathematical terminology is not consistently used rightly.

1 – No strategy is used, or a flawed strategy is tried that will not lead to a correct solution. There is little or no evidence of sound mathematical reasoning. Too many errors in computation, no correct solution obtained. Either mathematical representations are not constructed or they are flawed. Communication is unclear and incomplete. There is no awareness of audience or purpose.

Analytic rubrics help students understand the nature of quality work since these evaluation tools identify the important dimensions of a product or performance. Teachers can use the information provided by an analytic evaluation to target instruction to particular areas of need. Due to the usage of several traits that are considered, analytic scoring rubric may take longer time than assigning a single score.

**Developmental Rubric:** Developmental rubric describes growth along a proficiency continuum ranging from novice to expert. Various coloured belts that designate proficiency levels in Karate are one such example of Developmental rubric.

Developmental rubrics are well suited to subjects that emphasise skill performance. As such they are best suited for Language arts, physical education, the arts and language acquisition. Developmental rubrics are generic in that they are not tied to any particular performance task, age or grade level. Teachers across the grades can profile student proficiency levels on the same rubric.

Benefits from the use of well-developed rubrics:

**For teachers:**

1. Scoring reliability – a clearly defined rubric helps teacher in reducing subjective judgements during student assessments. Consistency of judgements and scoring reliability increases across classrooms when a common rubric is used.
2. Focused instruction – well developed rubrics help teachers as they serve as targets.

**For students:**

1. Clear targets – well developed rubrics help students in understanding how their work would be judged and prepare accordingly.
2. Feedback – clear performance criteria with analytic rubrics enable teachers to provide a detailed feedback, which in turn help students to improve their performance.
3. Guides for self-assessment – Students can use the tools for self-assessment and set goals when teachers share the rubrics with them.

### What is a rubric?

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.

### How to make a rubric

1. Decide what criteria or basic elements need to be present in the student's work to ensure that it is high in quality. At this stage, you might even consider selecting samples of exemplary student work that can be shown to students when setting assignments.
2. Decide how many levels of achievement you will include on the rubric and how they will relate to your institution's definition of grades as well as your own grading scheme.
3. For each criterion, component, or essential element of quality, describe in detail what the performance at each achievement level looks like.
4. Leave space for additional, customised comments or overall impressions and a final grade.
5. Developing rubrics interactively with your students
6. 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.

Table 1: An *Analytic* Rubric Example for a Speaking Task

Factual Information	Vocabulary	Correctness of Language	Fluency
3 It contained more than 5 facts about the student.	3 Student used a wide variety of vocabulary words to describe self (more than in the lesson).	3 Less than 10% of words contain pronunciation errors; two or fewer grammar mistakes; 0-1 incorrect word choices.	3 Introduction was told with expression, not flat; good L2 intonation pattern; confident in speech.
2 The student gave between 3-5 facts about him/herself.	2 Student used the necessary vocabulary and basic vocabulary was used correctly.	2 Between 11% and 30% of words have pronunciation errors; between 3 and 6 grammar errors; between 2 and 4 incorrect word choices.	2 Some expression in speech though mechanical in places; a few pauses but they didn't detract from comprehensibility.
1 The student gave less than 3 facts about him/herself.	1 The introduction used words incorrectly and used only basic words—replicated the lesson.	1 More than 30% of words have pronunciation errors; more than 6 grammar errors; more than 4 incorrect word choices.	1 Very flat presentation; little L2 intonation pattern; many pauses, hesitations, and restarts that made it difficult to follow.

(Source: <https://www.scoop.it/t/language-assessment>)

## How to use 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 re-used later. Whether you develop your own or use an existing rubric, practice with any other graders in your course to achieve inter-rater reliability.

### Be transparent

Give students a copy of the rubric when you assign the performance task. These are not meant to be surprise criteria. Hand the rubric back with the assignment.

### Integrate rubrics into assignments

Require students to attach the rubric to the assignment when they hand it in. Some instructors ask students to self-assess or give peer feedback using the rubric prior to handing in the work.

### Leverage rubrics to manage your time

When you mark the assignment, circle or highlight the achieved level of performance for each criterion on the rubric. This is where you will save a great deal of time, as no comments are required.

Include any additional specific or overall comments that do not fit within the rubric's criteria.

### Be prepared to revise your rubrics

Decide upon a final grade for the assignment based on the rubric. If you find, as some do, that presented work meets criteria on the rubric but nevertheless seems to have exceeded or not met the overall qualities you're seeking, revise the rubric accordingly for the next time you teach the course. If the work achieves highly in some areas of the rubric but not in others, decide in advance how the assignment grade is actually derived. Some use a formula, or multiplier, to give different weightings to various components; be explicit about this right on the rubric.

### Consider developing online rubrics

If an assignment is being submitted to an electronic drop box you may be able to develop and use an online rubric. The scores from these rubrics are automatically entered in the online grade book in the course management system.

### Summary:

In this block, we have studied about the evaluation criteria for assessment. We have discussed the types of rubrics and how to prepare one.

### To Do Activity:

1. Discuss the different types of rubrics and their relevance in Evaluation criteria

## Block 5: ICT Tools for Assessment of Learning

### 5.1 Introduction to ICT Learning

Information and Communication Technology (ICT) is defined as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information (UNDP, 2000: UNESCO 2002).

Technology has a vital role to play in effective and efficient assessment of learning. Modern technology offers academicians a variety of new tools that can be used in the classroom. Technology can help teachers assess their students' learning as well as their performance in the classroom. Use of ICT in assessment involves the use of digital devices to assist in the construction, delivery, storage or reporting of student assessment tasks, responses, grades or feedback.

ICTs comprises of the following three components:

1. Information and Communication Infrastructure (ICI), which includes physical telecommunications systems, networks (Cellular, broadcast, cable, satellite, portal) and the services that utilise those (Internet, voice, mail, radio, and television).
2. Information Technology (IT) that refers to the hardware and software of information collection, storage, processing, and presentation (World Bank: 2002).
3. Communication Technology (CT), like telephony, e-mail, chatting, etc., which helps to disseminate information and facilitate interaction among students and teachers irrespective of the distance, time and situations.

Technology-enhanced learning environments offer a promising avenue for built-in assessment of the more complex and behavioural dimensions of Key Competencies, based on Learning Analytics. Many of the currently available technology-enhanced learning environments, tools and systems recreate learning situations which require complex thinking, problem-solving and collaboration strategies and thus allow for the development of generic skills. Some of these environments allow learners and teachers to assess performance, understand mistakes and learn from them.

**5.2 Tools of ICT:** ICT tools may be in the form of audio, visual and audio – visual. Use of ICT tools will enlarge the sources of collection. The tools will enlarge the sources of collection. The tools of ICT reduces the gaps in data collection and made not only acquisition and absorption of knowledge by the students possible but also sharing / collaboration in the classroom The tools of ICT will help not just normal students, but they pretty useful for physically and mentally challenged students too.

There are different tools of ICT available today, that can be used to assess students' performance during teaching – learning process as well as the product based assessment. To assess the students' best work in a subject for a full year, we can take the help of one of the tools of ICT called e-portfolio, through which we can easily and quickly assess students' performance. There are other

tools of ICT too that can be used for assessment. They are online rubrics, online – peer assessment and digital concept mapping, among other. The advantages of using ICT tools in the assessment process are time management and it encourages reflection among the students.

Let's list out some of the prominent ICT tools:

1. PingPong – includes essay questions, multiple choice questions among others.
2. Gedit- for immediate feedback
3. Socratic teacher – Useful for formative assessments. Teachers can engage whole class through various engaging activities. They can ask short answer questions and reflect student answers on the on the screen. Teachers can give quick quizzes and give grade them accordingly.
4. Answer Pad – useful to obtain feedback from students
5. Quizlet – Create own flashcards, or pick the existing ones and can study games and do multiple tests
6. AnswerGarden – for online brainstorming
7. Gradecam
8. Plickers
9. DeansList
10. Collaboration tools like SharePoint of Microsoft
11. Hot Potatoes – can provide six types of questions to create quizzes, crossword, multiple choice
12. Flubaroo – to assess and evaluate student's work progress online
13. Formative – for formative assessments and real-time student insights

The concept map below gives an overview of how ICT can be used for assessment.



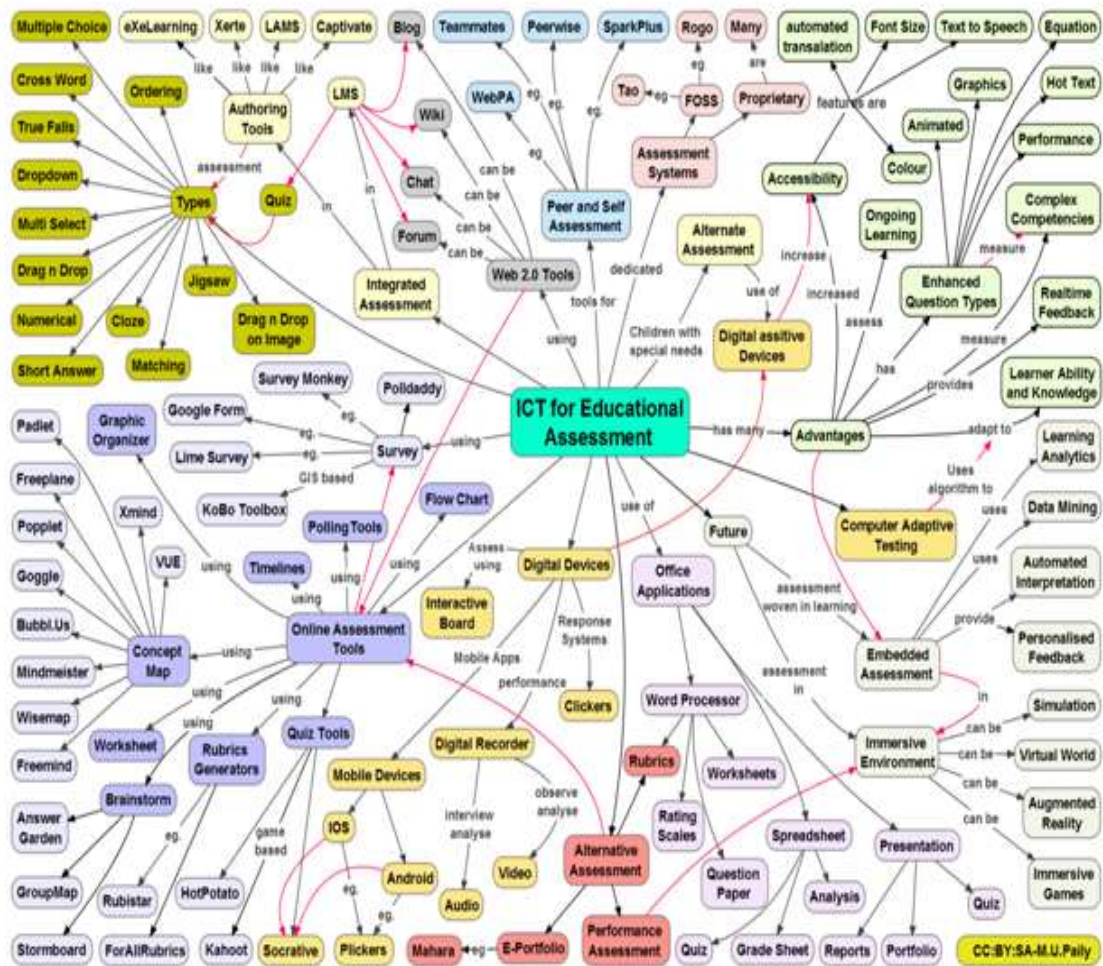


Fig. 5.1 The Concept map giving an overview of ICT Tools used for Assessment and Evaluation

(Picture courtesy: [https://www.riemysore.ac.in/ict/unit\\_9\\_ict\\_in\\_assessment.html](https://www.riemysore.ac.in/ict/unit_9_ict_in_assessment.html))

**Summary:**

We have briefly touched upon the subject of ICT tools for assessment of learning. Also, this block has covered the topic of tools of ICT for assessment of learning.

**To Do Activity:**

1. Discuss the necessity for the use of ICT tools in assessment

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