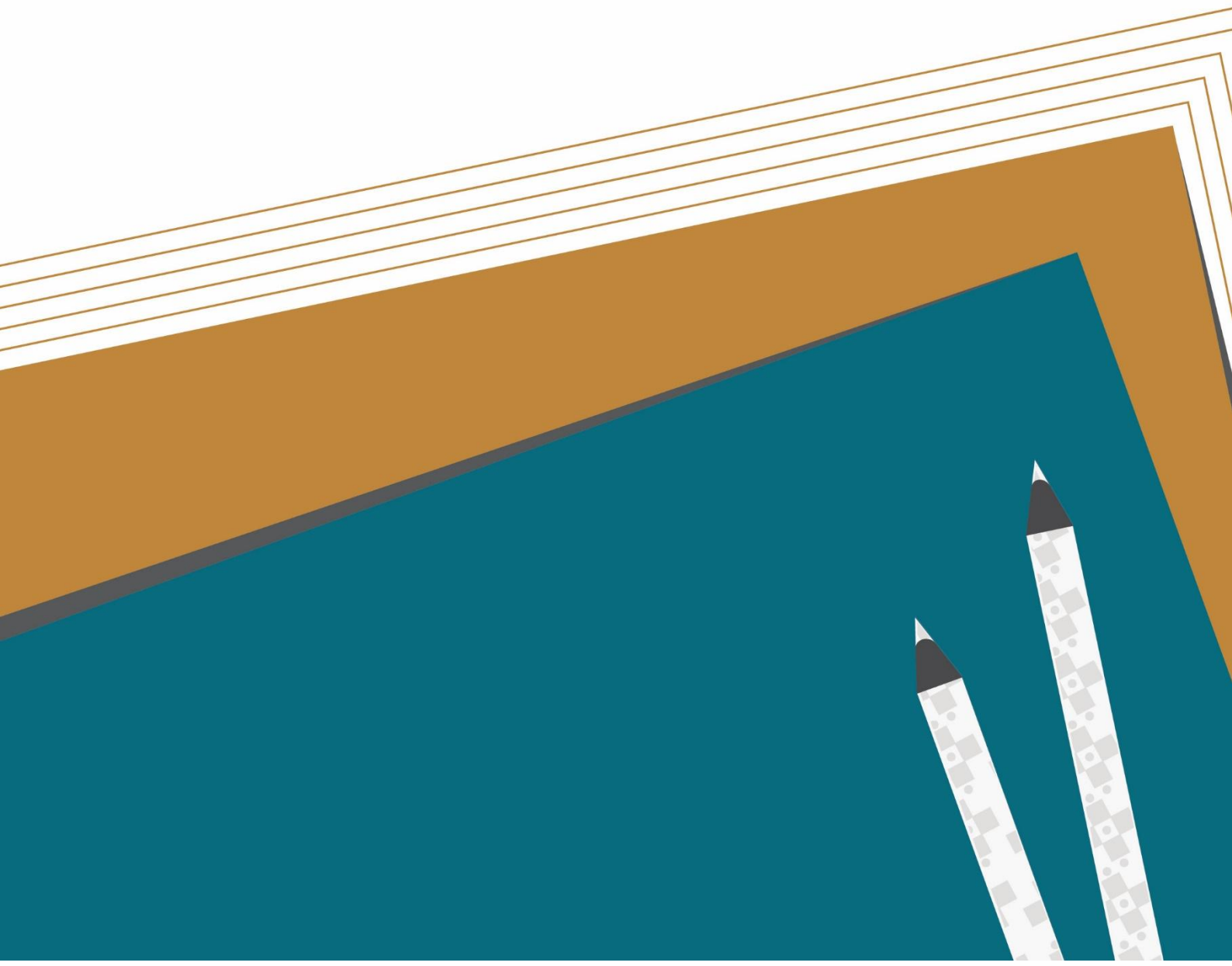


Basic Concepts in Assessment



Basic Concepts in Assessmentⁱ

Assessments play an important role in the teaching learning process. Clear understanding and usage of assessment terms and terminologies facilitate effective communication among teachers, and stakeholders involved in the assessment process. It ensures that everyone is on the same page, avoids confusion, and promotes accurate interpretation and exchange of assessment-related information. This paper intends to provide guidance in developing an understanding on the key concepts in assessment.

Keywords: Assessment, Evaluation, Measurement, Formative Assessments, Summative Assessments, Criterion Referenced, Norm Referenced, Ipsative Referenced

Assessment versus Evaluation: Conceptual Distinctions

In educational discourse, the terms assessment and evaluation are often used interchangeably, but theoretically they are distinct. While both relate to understanding and judging student learning, research and policy frameworks highlight differences in their purpose, focus, and methodology.

Historically, in India, the National Council of Educational Research and Training (NCERT) predominantly used the term evaluation in documents related to school examinations and grading systems. Similarly, the Central Board of Secondary Education (CBSE) introduced the Continuous and Comprehensive Evaluation (CCE) system, where evaluation was employed as an umbrella term encompassing both summative and formative practices, including periodic tests, projects, and classroom activities. National Education Policy 2020 (NEP 2020), advocate a shift toward the concept of assessment as a continuous, formative, and learner-centred process. Assessment is conceptualized not merely as a mechanism for judgment, but as an instrument to monitor learning, provide timely feedback, and support pedagogical decision-making. This aligns with the constructivist view of learning, which posits that knowledge is actively constructed by learners and can be enhanced through reflective feedback (Vygotsky, 1978).

Scriven (1967) distinguishes assessment from evaluation in terms of scope: assessment typically refers to judgments about student performance or learning products, whereas evaluation refers to broader judgments about the effectiveness of programs, curricula, or teaching processes. Similarly, Black and Wiliam (1998) and Sadler (1989) emphasize that assessment is primarily concerned with gathering **evidence of learning**, whereas evaluation involves interpreting this evidence to make quantitative/ qualitative judgments about student achievement or instructional effectiveness. Evidence of learning means observable or measurable information that shows what a student

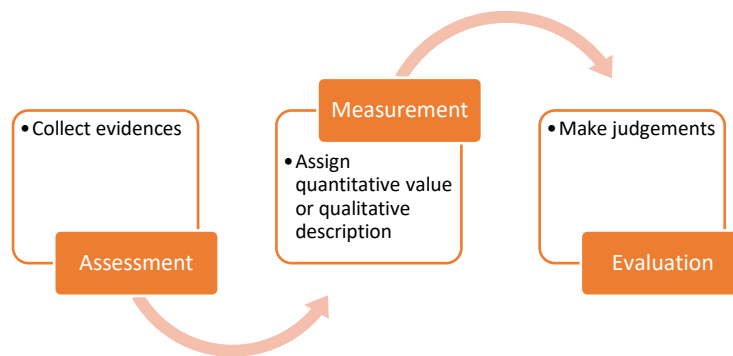
knows, understands, or can do after instruction. In educational assessment, teachers collect this evidence to determine whether students have achieved the intended learning outcomes (Suskie, 2009). Evidence may include tests, assignments, questioning, observation, projects, oral presentations, or portfolios. Through systematic collection and analysis of this evidence, teachers can assess the extent of learning (assessment) and subsequently evaluate its quality (evaluation).

While it is true that assessment is often process-oriented—providing continuous feedback to support learning—evaluation is not limited to the final product alone. Evaluation also considers evidence gathered throughout the learning process to make informed judgments about the quality and effectiveness of learning. For example, while writing an essay, the teacher reviews drafts, gives feedback on structure, grammar, and ideas. This is assessment, as it supports learning and improvement. At the end, the teacher evaluates the final essay using criteria such as coherence, argument quality, and language, and assigns marks or grades. This is evaluation. For grading, the teacher may also consider how much the student improved from the first draft to the final version, the effort put into revisions, and responsiveness to feedback.

Myths about Assessment and Evaluation	Meaning of Assessment and Evaluation
• Assessment and evaluation are the same and can be used interchangeably. • Assessment focuses on the process of learning, while evaluation focuses only on the product of learning. • Grades are given in assessment, and marks are given in evaluation.	Assessment emphasizes the collection and analysis of evidence to support learning, whereas evaluation focuses on making informed judgments about the quality of student learning. Recognizing this distinction allows educators to adopt assessment practices that are formative, continuous, and learner-centered, while still maintaining rigorous evaluative standards for educational accountability.

Measurement in Education

Measurement involves assigning a quantitative value or qualitative description against a student's performance in the given test. Quantitative measurement uses numbers, such as test scores or percentages, to indicate extent of attainment of desired learning outcomes. On the other hand, qualitative measurement uses structured descriptions, such as rubric levels (e.g., 'beginning', 'proficient', 'advanced') or coded feedback on a project or portfolio. For example, a student's essay can be quantitatively measured with a score of 4/5 and qualitatively measured using a rubric description. Both types give a more complete picture of learning. During evaluation, all the evidences of learning up to a given point are aggregated for making judgement about student's learning level based on measurement.



Though assessment is a broader process and precedes measurement, historically the domain of educational measurement evolved. In the early 20th century, the focus in education was on measurement, influenced by the rise of psychometrics. Educators aimed to quantify human abilities, especially intelligence, using standardized tools. Standardized testing, such as intelligence and achievement tests used during the World War I, marked this period. Learning was viewed in terms of numerical scores, and emphasis was placed on objectivity, reliability, and comparison among learners.

By the 1930s, the limitations of mere measurement led to the emergence of evaluation. This phase emphasized not just measuring performance but interpreting results and making value judgments about educational outcomes. Ralph Tyler played a key role by proposing objective-based evaluation, where the success of education was judged based on whether predefined learning objectives were achieved. Evaluation thus connected testing with curriculum goals and decision-making.

From around 1980s, there was a shift toward assessment, influenced by constructivist theories of learning. Assessment expanded beyond tests and exams to include formative, continuous, and authentic methods such as projects, portfolios, and classroom interactions. The focus moved to supporting learning, providing feedback, and understanding the learning process, rather than only judging outcomes. Assessment became more learner-centered, recognizing that learning is dynamic and ongoing.

Myths about Assessment and Measurement	Meaning of Measurement
• Measurement is the same as assessment. • Quantitative measurement is more valuable than qualitative measurement.	Measurement is a part of assessment, while assessment goes further by providing feedback, and direction for improvement. Assessment answers questions such as 'Where are the learning gaps/ misconceptions' and 'What should we do next?'. Measurement answers questions such as 'How much?' or 'To what level?'

Formative and Summative Assessment: Definitions and Distinctions

Formative and summative assessment serve distinct yet complementary purposes. However, the way they have been presented and operationalized in official documents has often blurred their essential differences, creating conceptual and practical challenges for educators. Formative assessment focuses on supporting learning during instruction, whereas summative assessment evaluates learning outcomes at the end of a defined period. The *National Curriculum Framework for School Education (2023)* describes formative assessment as a continuous, low-stakes process aimed at tracking student learning and providing feedback to improve teaching and learning. Such practices include classroom observations, discussions, concept mapping, and short written responses. In contrast, summative assessment involves higher-stakes evaluations—such as term-end examinations or board assessments—used to judge performance against established benchmarks.

Despite this clear theoretical distinction, policy discourse has often conflated the two. As a result, genuine formative assessment may be limited or go unrecognized, as practices intended to support learning are overshadowed by accountability-driven demands. At the same time, teachers may experience assessment overload as they attempt to fulfil both formative and summative functions within limited classroom time (Wynne Harlen & Mary James, 1997). A related issue is the assumption that all teacher-led assessment is inherently formative. Because formative assessment is embedded in classroom interactions, it is often equated with any assessment conducted by teachers. This can lead to the unintended transformation of ongoing assessments into ‘mini-summative’ tasks, where the emphasis shifts from feedback to grading and judgment (Wynne Harlen & Mary James, 1997).

Myths about Formative and Summative Assessment	Meaning of Formative and Summative Assessment
• Unit tests are considered formative, while summative assessments are end-term exams. • The scores from formative assessments should always be included in the final grading of students. • Summative assessments are typically written exams, whereas formative assessments involve activities such as projects or group work.	Formative assessment uses evidence of learning to provide feedback and adjust teaching in real time, while summative assessment consolidates evidence to judge achievement at a particular point. Although both rely on similar sources of evidence—such as quizzes, discussions, assignments, and projects—they differ in how this evidence is used. Importantly, even summative assessment results can be used formatively to inform future teaching and learning



Reference for Assessments

Assessments can be categorized into three major groups: norm-referenced assessments, criterion-referenced assessments and ipsative assessments. They differ in their intended purposes, the way content is selected, and the scoring process which defines how the test results must be interpreted. Each approach has their own merits and are used in different contexts based on the intended purpose of the assessment.

Norm-referenced assessments

These assessments help compare one student's performance with the performances of a large group of students. The score of individual student indicates how that student compares with others who have undergone the same assessment. This is an approach that has arisen because of the need for assessment that discriminates between students where a selection has to be made. Test content is selected according to how well it ranks students from high achievers to low.

The scores obtained in these assessments are based on a predetermined distribution, often represented as a bell curve. This distribution is derived from the performance of all test takers. The scores are interpreted in terms of percentiles, where a higher percentile indicates a higher relative performance compared to the norm group.

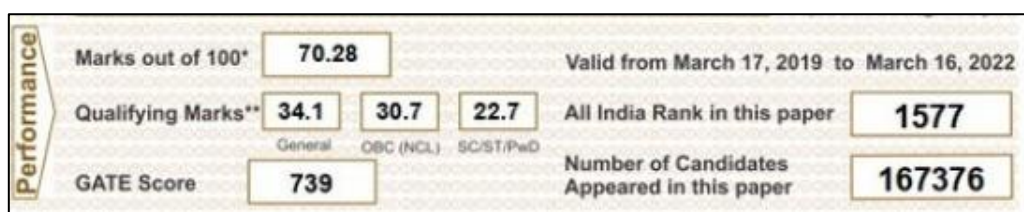


Figure 1: Report card for a selection assessment

Criterion-referenced assessments

These assessments are focused on "what test takers can do and what they know, not how they compare to others". This kind of assessment focus on determining mastery of specific criteria or standards (learning outcomes). The test content is aligned to the learning outcomes and is selected based on the distribution of learning outcomes being evaluated. Figure 2 presents a report card from a certification assessment, summarizing learners' achievement against defined standards and indicates whether students have met the required competency levels for certification. Figure 3 illustrates a classroom report card that captures students' performance across subjects in terms of grades. Figure 4 shows the distribution of students across different learning levels as measured in large-scale assessments such as NAS. It provides an overview of how students are performing relative to expected learning outcomes and helps identify system-level strengths and gaps.

विषय कोड तथा नाम Subject Code and Name	कक्षा Class IX				कक्षा Class X			
	Grade		Overall Grade (FA+SA)		Grade		Overall Grade (FA+SA)	
	FA	SA	Grade	Grade Point (GP)	FA	SA	Grade	Grade Point (GP)
101 ENGLISH COMM.	B1	B1	B1	08	A2	A1	A2	09
085 HINDI COURSE-B	A2	A2	A2	09	B1	B1	A2**	09
041 MATHEMATICS	A1	C1	A2	09	A1	A1	A1	10
086 SCIENCE	A1	A2	A2	09	A1	A1	A1	10
087 SOCIAL SCIENCE	B2	B1	B1	08	A2	A2	A2	09
अवधि वेब विन्दु का औसत (सीजीपीए) Cumulative Grade Point Average (CGPA)								09.4

Figure 2: Sample report card for certification assessment

SUBJECT NAME	TERM I				TERM II				OVERALL (TERM I+ TERM II)			
	FA1	FA2	SA1	TOTAL (FA1 + FA2 + SA1)	FA3	FA4	SA2	TOTAL (FA3 + FA4 + SA2)	FA	SA	OVERALL GRADE	Grade Point
ENGLISH	A	A	A	A	A	A*	A*	A*	A	A*	A*	5
Ind LANGUAGE HINDI	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	A*	5
MATHEMATICS	A*	A*	A*	A*	A	A*	A	A	A*	A	A	4
SCIENCE	A	A*	A	A	A	A	A	A	A	A	A	4
SOCIAL SCIENCE	A*	A*	A	A*	A*	B	A	A	A	A	A	4
COMPUTER	A*	A*	A	A*	A*	A*	A*	A*	A*	A*	A*	5
Cumulative Grade Point Average (CGPA): 4.5												

Figure 3: Sample report card for classroom assessment

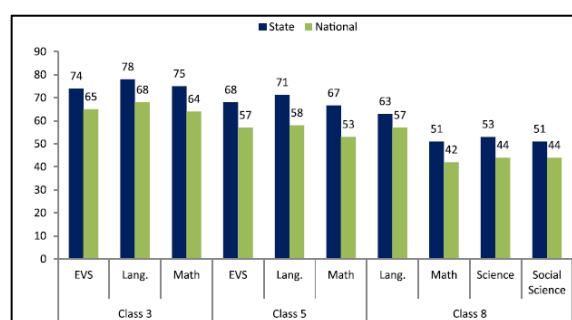


Figure 4: Students learning levels in assessment for accountability (NAS)

Ipsative-referenced assessments

The term "ipsative" comes from the Latin word "ipse," meaning "self". This kind of referencing is used in case of assessment as learning. The emphasis here is on assessing an individual student's growth, improvement, or change over time in relation to their own prior performance. Instead of focusing on absolute scores or comparing performance to external standards (learning outcomes), ipsative assessments provide insights into an individual's relative strengths and weaknesses,

progress, or developmental trajectory. These assessments involve self-reflection and self-comparison which helps in providing feedback for self-directed learning and development. Figure 5 presents a sample self-assessment rating scale used by students to assess themselves. Such assessments encourage students to reflect on their understanding, skills, and effort, and to identify their strengths and areas that need improvement. Such tools promote learner autonomy, metacognitive skills, and a sense of ownership over the learning process. Figure 6 showcases an example of a student's reflective note, where the learner articulates their learning experiences, challenges faced, and strategies used to overcome them.

PERSONAL & SOCIAL RESPONSIBILITY			
I CAN ASK FOR HELP WHEN NEEDED	☐	☒	☐
I AM PATIENT WITH MYSELF AND OTHERS.	☐	☐	☒
I TAKE RESPONSIBILITY FOR MY ACTIONS	☐	☐	☒
I CAN INTERACT WITH OTHERS RESPECTFULLY	☐	☐	☒
I CAN INTERACT WITH MY ENVIRONMENT RESPECTFULLY	☐	☐	☒
I HAVE PRIDE IN WHO I AM	☐	☐	☒

Figure 5: Sample students self-assessment rating scale

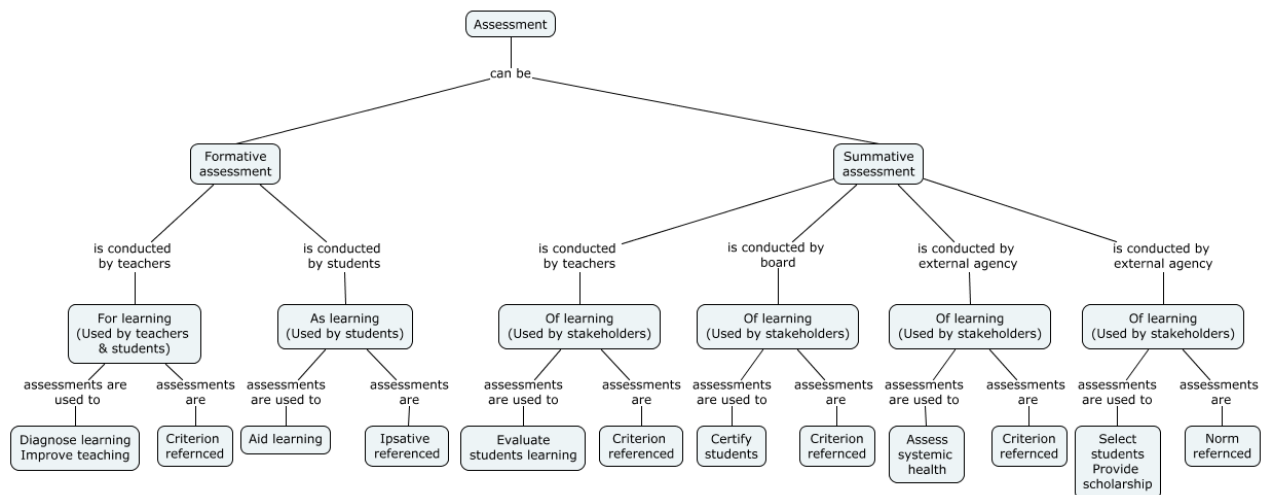
Journey From Interesting Questions to Purpose of Assessment

I will be honest. Have been tuned to think that creating assessments was straightforward, pick a chapter, write an Interesting question based on what is in the textbook, double check that the question looks interesting, check if the situation/stimulus is valid and you are done. Question and paper making was always a mechanical process. We were mostly concerned about average time taken by students to solve a question, bell-curve of marks scored, data behind choice of distractors. We never stopped to ask : *What is this question actually measuring? Does it tell us anything meaningful beyond the general statistics about the marks and percentage of students getting it right or partially right. We could never imagine that a question held a much bigger power.*

That realisation that we had been approaching the assessments through the lens of statistics only now feels like designing assessments without a soul. This realisation though uncomfortable was necessary.

Figure 6: Sample student's reflective note

Bringing it all Together



References

1. Harlen, W., & James, M. (1997). Assessment and learning: Differences and relationships between formative and summative assessment. *Assessment in education: Principles, policy & practice*, 4(3), 365-379.
2. Taras, M. (2005). Assessment—summative and formative—some theoretical reflections. *British journal of educational studies*, 53(4), 466-478.
3. Earl, L. M. (2012). *Assessment as learning: Using classroom assessment to maximize student learning*. Corwin Press.
4. Banerjee, S, Sharma. P. (2021). *A Closer Look at the Purpose of Assessment in the Indian Context*. *Progressive Teachers*.
5. Bond, L. A. (1995). Norm-Referenced Testing and Criterion-Referenced Testing: The Differences in Purpose, Content, and Interpretation of Results.

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