# ASSESSMENT IN EDUCATION

Assessment is an essential aspect of the instructional design process. It measures how well the learning outcomes of an educational product were achieved. Reiser and Dempsey (2012) suggest that instructional design involves designing and developing educational products to facilitate learning and improve performance. However, how do we know we have accomplished this goal once we have created an instructional product? This is where assessment is needed!

## WHAT IS ASSESSMENT

In general terms, assessment refers to the process of gathering information for a specific purpose. Most often, we conduct assessments with the intention of making a decision. The insights gained from assessments can be used to allocate resources, plan improvements, or set policy. Assessment is used in many contexts: personal, business, education, healthcare, public policy, and many more. The type and purpose of assessments we conduct depends on the context in which they are conducted. See the examples below:

* In a personal context, we might say, "I will assess my options" or "I need to assess the situation." What we mean is we plan to gather information to help make a decision.
* In a business context, a supervisor may conduct a performance assessment to determine an individual's ability to complete a specific task correctly. The decision they make based on the information they collect might be to provide training or to invite the individual to pursue alternative employment.
* In an education context, a tech college or military training program may conduct a risk assessment to identify potential risks associated with a particular learning activity. The purpose of the assessment might be to decide whether to proceed with the activity or identify what steps to take in order to mitigate potential risks to students.
* In a healthcare context, doctors provide regular health assessments to evaluate an individual's physical, mental, and social well-being and identify any health issues to recommend appropriate interventions.
* In a public policy context, governments and organizations must conduct environmental assessments to identify the potential impact of human activities on the natural environment. The results of the assessment will determine whether the government or organization can continue with the activity.

Regardless of the context, assessment is an evidence-based decision-making process that relies on our ability to establish clear criteria and then collect accurate and pertinent information.

## EDUCATIONAL ASSESSMENT

In an educational context, assessment involves systematically documenting empirical evidence about a student's knowledge, skill, ability, or attitudes related to specific learning objectives.

Educational assessment is a critical component of the teaching and learning process. This dynamic process helps educators identify not only what students know but also how they learn and what they are capable of achieving. Assessments can take various forms, from informal observations and quizzes to formal standardized tests, performance assessments, or projects, each serving different purposes and providing insights into a student's abilities. The ultimate goal of educational assessment is to guide educational decisions, improve teaching methods, and support personalized learning for students, ensuring that educational objectives are met and that all students have the opportunity to succeed academically.

## ASSESSMENT AND EVALUATION

Before we explore the topic of assessment further, we need to understand the difference between two terms – Assessment and Evaluation. These related terms are often used interchangeably, but they have distinct meanings and purposes.

Assessment refers to the process of gathering information about an individual's knowledge, skills, abilities, or other characteristics. The primary purpose of assessment is to gather accurate, often quantitative, information about an individual so we can communicate and compare results.

Evaluation, on the other hand, refers to the process of making judgments or decisions based on the results of an assessment. An evaluation aims to make value-based judgments about an individual's performance or cognitive ability; this often requires we establish evaluation criteria. For example, an assessment provides an objective description of a student's learning. Based on the assessment results, the evaluation will make an informed value-based decision about the quality or adequacy of the student's ability (e.g., the student's achievement met the standard or it did not). The criteria we use to make a judgment about a college student's ability may differ from those used for an elementary student. The assessment is the same; however, the evaluation is different. What may be adequate for an elementary level student, might not meet expectations for the college student.

The difference between these two terms is subtle. Assessment is descriptive, while evaluation involves judgment. Assessment is the process of gathering information, while evaluation is the process of making decisions based on the results of an assessment. An assessment becomes an evaluation when we make a determination about an individual based on assessment results.

## TYPES OF AND PURPOSES FOR ASSESSMENT

Assessment serves multiple purposes in education, including:

* Measuring Student Learning: Summative assessments measure achievement, enabling teachers to determine what students have learned (accountability) and verify they have accomplished the expected learning outcomes (certification). These types of assessments are most often evaluations.
* Informing Instructional Planning: Formative assessments help teachers make informed decisions about the instructional needs of their students. The results of a formative assessment can help teachers plan the scope and focus of their instruction.
* Assessing Readiness and Need: Placement assessments are a form of formative assessment that helps teachers determine a student's readiness for the planned instruction or whether a student needs to participate in the proposed instruction.
* Diagnosing Learning Problems: Diagnostic assessment is used at an individual level rather than a group level. The results of a diagnostic assessment are used to identify specific misconceptions a student may have or provide reasons why they failed to accomplish a specific task (got the question wrong). The results of a diagnostic assessment are used to provide detailed feedback to students – not just that they got a question wrong but also why they may have answered a question incorrectly or unsuccessfully completed a task.
* Study Guides: Research has shown that using tests can be an effective study technique (Karpicke & Blunt, 2011). For example, taking a test-your-understanding quiz can help students improve their retention and recall of information. The results can provide valuable feedback for students helping them identify areas where they need to improve. In addition, taking practice tests can reduce test anxiety as students become more comfortable with the testing process and the types of items used in an assessment.
* Evaluating Program Effectiveness: The results of assessments can be used to evaluate the effectiveness of educational programs and initiatives, helping teachers and schools make data-driven decisions about improving the education they provide. However, when evaluating a program, assessment results are but one piece of evidence that should be considered.

Instructional Designers will need to create assessments for several of these purposes. This may include creating a test your understanding quiz, a unit review, or a summative assessment at the end of the course to certify a student has accomplished the expected learning outcomes. Unfortunately, not all assessments are valid measures of what they intend to measure, and the results cannot be used for their intended purpose. This is why an instructional designer needs to learn how to create learning objectives and quality assessment instruments that align with the goals of the instruction.

### Chapter Summary

* Assessment is the process of gathering information for decision-making.
* In education, assessment is the process of systematically documenting evidence of students' knowledge, skills, abilities, and attitudes related to specific intended learning objectives.
* Assessment is essential in education to determine whether students have achieved the expected learning outcomes of a course.
* Assessment can also be used to determine the effectiveness of instruction.
* Assessment is descriptive; Evaluation involves judgment.
* Assessment becomes evaluation when we make a judgement about the adequacy of a student knowledge or ability. This should be based on established criteria.
* Evidence-based decision-making relies on clear criteria and accurate information collection.
* Educational assessment serves multiple purposes: Measuring student learning (summative assessments), Informing instructional planning (formative assessments), Assessing readiness and needs (placement assessments), and Diagnosing learning problems (diagnostic assessments).
* Valid assessments align with instructional goals and adequately measure intended learning objectives.
* Not all assessments are valid measures of intended outcomes.
* Instructional designers need to create various types of assessments.
* An important purpose of educational assessment is to personalize learning and guide educational improvements.

### Discussion Questions

1. How might the distinction between assessment and evaluation impact the way instructional designers create and implement educational tools? Consider the potential implications for both formative and summative assessments.
2. Assessment has several purposes in education. As an instructional designer, which purpose is most important? How will prioritizing this purpose affect the design of instructional materials?
3. Given that assessment results alone are insufficient for evaluating the effectiveness of a program, what other factors or types of evidence should be considered alongside assessment results when evaluating an instructional program?
4. In what ways in can assessment guide student learning? How might this be implemented in a course?

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