

5: ASSESSMENT

Establish how we'll know if a student has successfully met the objectives.

THE
LESSON
DESIGN
TOOLKIT

How will we know if the lesson is successful?

What measures of proficiency matter?

How will students show that they know/think/are able to do this?

What central question should be answered through assessment?

EXPLORE & DEFINE

Explore the needs of assessment and establish the main challenges before working too specifically on a solution.

- What are some signs of whether a student is meeting the learning objectives?
- What opportunities will students have to demonstrate their progress?
- What measures of proficiency matter, and what's less important?
- What objectives are difficult to assess?
- What kinds of feedback might students expect, desire, and benefit from? (See next page on types of assessment.)

Write some ideas for assessment activities on sticky notes and place them on the lesson plan canvas.

PROTOTYPE

It's often easiest to make a rough first draft that can be learned from and improved upon later. This is faster and less daunting than making something complete and final all at once.

- Choose a single learning objective from the previous workbook. What's one task that will reveal a student's progress toward that objective?
- What assessment activities will allow students to demonstrate that they know/think/can do this?
- What kind of assessment (diagnostic, formative, summative) is most appropriate for determining student progress toward each objective? (See next page on types of assessment.)
- What assessment methods can be used in the classroom? What methods will be used outside of the classroom?

For each learning objective, choose possible assessment activities and write them on sticky notes. Place them on top of the previous ideas on the lesson plan canvas.

TYPES OF ASSESSMENT

There are three types of assessment: diagnostic, formative, and summative. Although all three are generally referred to simply as assessment, there are distinct differences between the three.

1. Diagnostic assessment

Diagnostic assessment can help you identify your students' current knowledge of a subject, their skill sets and capabilities, and to clarify misconceptions before teaching takes place (Just Science Now!, n.d.). Knowing students' strengths and weaknesses can help you better plan what to teach and how to teach it.

Types of Diagnostic Assessments

- Pre-tests (on content and abilities)
- Self-assessments (identifying skills and competencies)
- Discussion board responses (on content-specific prompts)
- Interviews (brief, private, 10-minute interview of each student)

2. Formative Assessment

Formative assessment provides feedback and information during the instructional process, while learning is taking place, and while learning is occurring. Formative assessment measures student progress but it can also assess your own progress as an instructor. For example, when implementing a new activity in class, you can, through observation and/or surveying the students, determine whether or not the activity should be used again (or modified). A primary focus of formative assessment is to identify areas that may need improvement. These assessments typically are not graded and act as a gauge to students' learning progress and to determine teaching effectiveness (implementing appropriate methods and activities).

Excerpt from Formative and Summative Assessment
Northern Illinois University, Faculty Development and Instructional
Design Center. <http://facdev.niu.edu>,

Just Science Now! (n.d.). Assessment-inquiry connection.
<http://www.justsciencenow.com/assessment/index.htm>

Types of Formative Assessment

- Observations during in-class activities; of students non-verbal feedback during lecture.
- Homework exercises as review for exams and class discussions).
- Reflections journals that are reviewed periodically during the semester.
- Question and answer sessions, both formal—planned and informal—spontaneous.
- Conferences between the instructor and student at various points in the semester.
- In-class activities where students informally present their results
- Student feedback collected by periodically answering specific question about the instruction and their self-evaluation of performance and progress.

3. Summative Assessment

Summative assessment takes place after the learning has been completed and provides information and feedback that sums up the teaching and learning process. Typically, no more formal learning is taking place at this stage, other than incidental learning which might take place through the completion of projects and assignments.

Types of Summative Assessment

- Examinations (major, high-stakes exams)
- Final examination (a truly summative assessment)
- Term papers (drafts submitted throughout the semester would be a formative assessment)
- Projects (project phases submitted at various completion points could be formatively assessed)
- Portfolios (could also be assessed during it's development as a formative assessment)
- Performances
- Student evaluation of the course (teaching effectiveness)
- Instructor self-evaluation

ALTERNATIVE GENERATION

It's easy to get lost in the details. With one prototype in hand, step back and imagine new ways of accomplishing the same goals. These ideas will be assessed later, but for now, imagine some alternatives without eliminating options.

- What's the most obvious and conventional way to assess student work?
- What's the most radical and unconventional way?
- What kinds of diagnostic, formative and summative feedback can be both gathered and given?
- How might students prefer to be evaluated and given feedback?

For each objective, generate at least 3 alternative versions.

ASSESS & CONVERGE

Assess all of the available alternatives and choose the assessment methods to take forward and refine.

- Do these assessment methods provide enough information to know if the teaching activities have been successful?
- Of the proposed alternatives, what's the single best indicator of student performance? The least?
- Are these assessments methods important?
- Are they possible to implement given the time and resources available?
- Do they provide both formative and summative guidance?

Decide on the best ways to assess success and add them to the lesson plan canvas.

What if the components of a course are misaligned?

If assessments are misaligned with learning objectives or instructional strategies, it can undermine both student motivation and learning. Consider the following example:

Your assessment measures students' ability to compare and critique the arguments of different authors, but your instructional strategies focus entirely on summarizing the arguments of different authors. Consequently, students do not learn or practice the skills of comparison and evaluation that will be assessed.

What do well-aligned assessments look like?

This table presents examples of the kinds of activities that can be used to assess different types of learning objectives (adapted from the revised Bloom's Taxonomy).

Type of learning objective	Examples of appropriate assessments
Interpret, Exemplify Classify, Summarize Infer, Compare, Explain	Papers, exams, problem sets, class discussions, or concept maps that require students to: <ul style="list-style-type: none">• summarize readings, films, or speeches• compare and contrast two or more theories, events, or processes• classify or categorize cases, elements, or events using established criteria• paraphrase documents or speeches• find or identify examples or illustrations of a concept or principle
Analyze, Differentiate, Organize, Attribute	Case studies, critiques, labs, papers, projects, debates, or concept maps that require students to: <ul style="list-style-type: none">• discriminate or select relevant and irrelevant parts• determine how elements function together• determine bias, values, or underlying intent in presented material
Create, Generate, Plan, Produce, Design	Research projects, musical compositions, performances, essays, business plans, website designs, or set designs that require students to: <ul style="list-style-type: none">• make, build, design or generate something new

Adapted from "Why should assessments, learning objectives, and instructional strategies be aligned?," Carnegie Mellon University Eberly Center. <https://www.cmu.edu/teaching/assessment/basics/alignment.html>

INTEGRATE

Consider the relationship between the assessment activities and the other components of the lesson plan.

- How will we know if students have met the learning objectives? Do the assessment activities cover each of the objectives?
- How does the content prepare students for the assessment activities? Can the assessment activities direct the focus of the content?
- How do the assessment criteria inform the teaching activities? How do the activities shape what can be assessed?
- What's the lesson about? Why does it matter? How has its purpose changed as your understanding has grown?

Revisit the previous workbooks before concluding the assessment activities.

ITERATE

Use the learnings from assessment and integration to inform changes to the assessments.

- What kinds of tasks will show whether students have achieved the learning objectives?
- What questions will I ask students to check for understanding?
- How will students demonstrate that they know/think/can do this?
- How and when will students know that they have succeeded?
- If a student has failed to meet a learning objective, will the assessment activities reveal this and provide helpful feedback?

Update the assessment activities and add them to the canvas.