

# SELECTING AND DESIGNING MEASURES

## UNIVERSITY OF NEW ENGLAND, OFFICE OF ASSESSMENT

The measures we choose to use and the data we choose to collect show what and who we value (D'Ignazio and Klein, 2020, p. 23). Thus, selecting and designing well-aligned, -thought-out, and -written measures gives students the surest opportunity to demonstrate their learning. Using a combination of formative and summative, and direct and indirect measures also provides students with varied opportunities to demonstrate their learning, and allows faculty and professional staff to triangulate the data and attain a comprehensive picture of student achievement of each outcome.

### INCLUSIVE ASSESSMENT PRACTICES

Inclusive or equity-minded assessment practitioners select and design measures that allow all students to leverage their talents and fully demonstrate their learning of the outcomes. Addy et al. (2021) use the prevailing evidence to provide the following steps for selecting and designing inclusive assessment measures (pp. 124-31).

Inclusive Assessment Practices	Description
<b>Consider the length and timing of assessments</b>	Consider the assessment's real-world applications. Timed assessments are appropriate when students commonly need to take time-limited assessments for their field. (But work with the Student Access Center to allow accommodations.) Take-home and authentic assessments are appropriate if speed is less important.
<b>Carefully choose question styles</b>	Question types (e.g., multiple choice, free-response) assess different skills. Free-response questions, for example, identify students' complete or incomplete understanding of the material. Thus, Addy et al. (2021) recommend using multiple-question formats "to get the broadest and most accurate assessment" (p. 127).
<b>Allow for immediate feedback and retaking exams</b>	The immediate feedback assessment technique, in particular, provides students with instant feedback on each response as they complete their assessment. If they answer a question incorrectly, students can try again multiple times until they answer it correctly. Instructors use variations of this technique, such as allowing students to revise and resubmit their work once or twice.
<b>Include student-created questions in assessments</b>	To facilitate student ownership of their learning and sense of belonging, some instructors have students draft their own assessments from the course material, collaborate with the instructor to finalize those assessments, and then get assessed on the assessments, and take the assessments.
<b>Leverage technology when testing</b>	Evidence points to online assessment methods providing more equity in assessment especially for students with learning challenges.

<b>Offer alternatives to traditional exams / Diversify assessments</b>	Replace or incorporate high-stakes assessments (e.g., midterm and final exams, final projects, capstones) with mixed and low-stakes, formative measures (e.g., quizzes, reflections, problem sets, in-class activities).
<b>Use inclusive grading practices</b>	Select a grading framework (e.g., norm-referenced v. criterion-referenced) and grading strategy (e.g., blind scoring) that limits bias and most appropriately assesses the learning outcomes.

## WHO'S IN CLASS?

Addy et al. (2021) provide a “Who’s in Class?” template that faculty and professional staff can give their students to collect demographic data. The template asks students about, for instance, their on- and off-campus activities, digital access, financial concerns, learning accommodations, family care responsibilities, first-generation status, as well as their religious, racial, and gender identities. Addy et al. then provide faculty with recommendations that help tailor the class to their students’ demographics, and celebrate the assets students bring to the classroom (pp. 140-48).

## FORMATIVE AND SUMMATIVE MEASURES

Deciding to use formative and/or summative measures can make a difference in students’ learning, and their demonstration of their learning.

**Formative measures** are administered throughout the class or co-curricular experience as students continue to learn the material. Faculty and professional staff can use the data from formative measures to identify current students’ strengths and areas for improvement, adjust the existing curriculum midstream, and provide immediate feedback to students to help them achieve the learning outcomes. Students can also use their scores from the formative measures to identify their learning needs. Formative assessments tend to be low stakes and have low or no point values.

**Summative measures** are given at the end of a major instructional unit, class, program, or co-curricular learning experience. Faculty and professional staff can compare the data from summative measures against a target goal or benchmark, and adjust the curriculum and improve learning of future students in subsequent courses. Summative assessments tend to be high stakes and have high point values.

Again, as Addy et al. (2021) point out, inclusive or equity-minded practitioners diversify assessments, either replacing or incorporating high-stakes, summative measures with low-stakes, formative measures.

## DIRECT AND INDIRECT MEASURES

Deciding to use direct and/or indirect measures can make a difference in the way in which students demonstrate their learning, and the type of data collected.

Using **direct measures**, qualified evaluators directly observe, assess, and provide tangible evidence of students’ skills, knowledge, and performance of the learning outcomes. Accompany direct measures with a clearly defined

rubric, checklist, or exam blueprint that establishes the standards of the learning outcomes and allows for the systematic collection of evidence of student learning.

**Indirect measures** provide data on students' self-reported thoughts, attitudes, beliefs, and values in regard to their learning, as well as data on the educational environment where that learning takes place. Indirect measures are often used to interpret and triangulate evidence of student learning that was collected from direct measures.

<b>Direct Measures of Student Learning</b> <i>Assessed by a qualified evaluator using a rubric</i>
Scores and pass rates on standardized, licensure, or certification exams
Capstone projects (e.g., research essays, theses, dissertations, presentations, oral defenses)
Written work (e.g. minute papers, short answers, essays, scaffolded writing assignments)
Annotated bibliography
Presentations
Posters
Performances
Portfolios and e-portfolios
Case studies
Simulations
Locally designed exams (e.g., final exams in key courses or qualifying exams)
Journals / double-entry journals
Team or group projects
Classroom response systems (clickers)
Service-learning projects or experiences
Online asynchronous student discussion threads
Wikis or blogs
Debates
Pre- and post-tests or essays

Field supervisor ratings of student skills in internships, clinical experiences, practica, student teaching, or other professional and content-related experiences
Employer ratings of graduates' performance in the workplace

Indirect Measures of Student Learning
Course grades or students' average grade of several different essays and assignments
Retention rates
Graduation rates
Admission rates (such as those into other four-year colleges or graduate programs) and graduation rates from those programs
Scores on tests required for further study, such as the Graduate Record Examinations (GRE) or the Medical College Admission Test (MCAT)
Employment of alumni in appropriate career positions and starting salary
Alumni surveys of their career responsibilities and career satisfaction
Student reflective essays or evaluations of their acquired skills and knowledge
Other student surveys, questionnaires, exit interviews, or focus-group reports
Employer surveys
Student-earned honors, awards, or scholarships
Rate of student involvement in faculty research, collaborative publications, or service learning projects
Voluntary notes or gifts from students or alumni

## SOURCES

Addy, T. M., Dube, D., Mitchell, K. A., & SoRelle, M. E. (2021). *What inclusive instructors do: Principles and practices for excellence in college teaching*. Routledge.

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Suskie, L. (2018). *Assessing student learning: A common sense guide* (3rd ed.). Jossey-Bass.



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