

How is Assessment Different from Grading?

The primary reason to avoid using grades as measures of student learning is that grading is typically holistic, whereas assessment of student learning is more atomistic:

Course grades combine a variety of performances (e.g., writing, participation, exams) that provide evidence of multiple learning outcomes. Using final grades alone obscures important differences in learning across students. To see the problem with using final grades as an assessment of learning, imagine a course where skill (writing), content knowledge, and class participation are elements of the final course grade:

Student	Writing (out of 100)	Exam (content) score (out of 100)	Participation (out of 100)	Total (out of 300)
X	80	70	100	250
Y	60	95	95	250
Z	90	80	80	250

In this example, all three students have the same course grade points. However, student Y needs to work on writing, and student X is not as strong in content knowledge.

In a second example, all students might achieve an “A” in a class (90% of the total points), but still have difficulties with some aspect of the course.

Student	Presentation (out of 100)	Writing (out of 100)	Exam I (out of 100)	Participation (out of 100)	Exam II (out of 100)	Total (out of 500)
X	65	95	95	100	95	450
Y	60	95	95	100	100	450
Z	65	90	100	100	95	450

All of the students in this example have poor (D- level) presentation skills, but all earned an A in the course. Common areas of poor performance are particularly important to note when trying to understand student learning.

Another difficulty is that course grades can be comprised of assignments throughout the course that help students develop new skills. Using final grades in this case can obscure student learning that is demonstrated near the end of the course and underestimate what students have learned. For example, imagine a course with multiple writing assignments:

Student	Writing I (out of 100)	Writing II (out of 100)	Writing III (out of 100)	Participation (out of 100)	Exam (out of 100)	Total (out of 500)
X	20	75	95	100	95	385
Y	15	60	95	100	100	370
Z	30	80	100	100	95	405

Only one of these students has a “B” in the course (student Z) and the others have Cs, yet their ability to write is quite strong by the end of the course (Writing III).

Here is another example where learning occurs throughout the course, yet student’s grades do not reflect that learning. In this case, a course has 5 cumulative exams over the course content.

Student	Exam I (out of 100)	Exam II (out of 100)	Exam III (out of 100)	Exam IV (out of 100)	Exam V (out of 100)	Total (out of 500)
X	20	60	75	82	95	330
Y	15	55	65	70	90	295
Z	30	70	80	75	85	340

Arguably, the final exam is the best out of sync with what students have learned. In this case one student (Y) who has mastered the content will not pass the class.

The solution to the problems with using course grades to assess learning is to examine the individual course assignments separately. However, even using grades on an assignment as a measure of learning can be problematic.

For example, in most programs, exams test multiple concepts. It might be that all the students have an acceptable level of performance overall, but we don't know if there are common areas of the exam where students experienced difficulty. Imagine a final exam in a world language:

Student	Correct word choice (25pts)	Grammar (25pts)	Correct use of formal tense (25pts)	Correct use of informal tense (25pts)	Total (out of 100)
X	25	20	10	25	80
Y	25	25	10	25	85
Z	25	25	10	25	90

In this case, students are not learning a critical component of the language that is being tested. Yet, if we look only at the grade on the exam, all seem to be doing fine. Another example might be a math exam where students struggle with just a single concept (e.g., multiplying fractions).

Projects and performances are often harder to break down into individual elements of learning, so rubrics are often developed to capture the diverse elements of student learning exhibited in these assignments. A rubric simply breaks down the task into the elements that reflect the important student learning determined by the faculty. For example, students in a theatre course might be evaluated on a performance using the following elements:

Student	Movement on stage	Voice and delivery	Characterization	Timing
X				

Breaking the grade into its component parts allows the instructor to more closely examine student learning of the critical elements involved in the overall performance. This is the essential strategy of assessment.

When can grades be used as measures of learning?

The only time grades are reasonable measures of learning, is when the assignment, project or exam is narrowly focused on a single learning outcome. However, the process of grading can provide measures of learning. For example, using a rubric, the instructor can use scores on specific elements as assessments of learning and combine those scores to create overall grades.

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The following links provide additional commentary on this subject.
<http://www.cmu.edu/teaching/assessment/howto/basics/grading-assessment.html>
<http://cnu.edu/assessment/documents/pdf/whyarentgradesenough.pdf>

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