



Center for Teaching and Learning

Mastery-based Testing: Emphasizing Learning and Deemphasizing Grades

What It Is

Mastery-based testing (MBT) is mostly used in undergraduate mathematics courses. It has three characteristics:

- On tests, course learning material is broken into objectives/skills. Each objective receives a “mastered” or “not yet” designation (students earn partial credit on assignments).
- Each objective may be retaken three times.
- Each student’s final test average at the end of the term is the number of objectives mastered divided by the total number of course objectives.

How It Works

Organize course for MBT	Link course content, lectures, and resources to specific objectives: <ul style="list-style-type: none"> • Include a brief description of MBT in the syllabus. • Break objectives into sequential topics/skills. Enumerate objectives. Link them to lectures. • Provide students with a chart in the syllabus or on Canvas that lists each objective/skill, corresponding sections of the textbook, and other resources.
Get student buy-in	Begin the process of motivating students on the first day of class: <ul style="list-style-type: none"> • Focus first on the benefits of MBT (Kelly, 2020). • Explain the rationale for using MBT and provide clear instructions.
Communicate progress and facilitating guided reflection	Communicate progress and facilitate reflection: <ul style="list-style-type: none"> • Provide students with a fill in grade chart to help track their progress. • After each test and redo opportunity, provide each student with a cover page indicating the objectives mastered during the test. • Have students respond to reflection prompts after each test. Collect responses during the next retake opportunity.
Support student success	Motivate students to achieve success: <ul style="list-style-type: none"> • Scaffold objectives; include basic objectives that everyone should be able to pass. • Help students to identify basic objectives and set small attainable goals. • Allow students to have control on which objectives they will redo on each retake day.

BENEFITS

- The “mastered” or “not yet” grading scale makes grading efficient, fair, and less time-consuming.
- Redo opportunities allow students to correct their errors and develop a [mastery-approach goal mindset](#). Also, it helps to reduce test anxiety.

- Guided reflection promotes [metacognition](#).
- Instructors spend less time grading and more time in providing feedback that is more likely to be read because redo is available.

ADVICE

- The best place to start MBT is with [questions](#).
- Plan course objectives, testing, and redo schedules before the term begins.
- If MBT is not feasible, use [4 simple ways to ease the spotlight off points](#). Also, [make your assessments help students learn](#).

Sources: [Kelly, J. S. 2020](#); [Townesley, M., & Schmid, D. \(2020\)](#)



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