



Teaching For Success®

Quick Answers

No. 804

Q: What is Mastery Learning All About?

A: Mastery Learning Increases Student Success

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Are you familiar with mastery learning concepts? This learning system provides many benefits. It might be the right choice for you if you want to:

- Increase your students' success?
- Avoid reviewing at the beginning of the semester?
- Reinforce course content?
- Experience students actually asking questions?
- Have students assume responsibility for their own learning?
- See your office hours actually utilized?

If you answered "yes" to any or all of these questions, mastery learning may be the answer you have been looking for. So, exactly what is mastery learning?

Mastery learning has two main benefits. The first and most obvious benefit is the strengthening of the selected topics that are mastery learned. The second benefit is an increase in overall student success on course content. The process has been applied in developmental through upper level mathematics courses.

Mastery learning can be traced back to the 1930s, but was quite prominent in the 1960s. Probably the most common historical form divides course content into short units. Students move at a self-directed pace, covering and practicing material.

The mastery test is critical

Passing a test shows mastery of the content. If unsuccessful, more review is individually done, until mastery is achieved. And here's the key; only then, does the student continue to the next unit.

Because of the structure found in the present-day college curriculum, modified forms of mastery learning are required. In the modified form, only limited amounts of content are targeted. The instructor sets appropriate timelines and continues on with traditional course curricula even as students work toward mastery.

Variations of this process nicely supplement other classroom procedures used currently, such as collaborative strategies, use of technology and lecture. We are using mastery learning to address the following two objectives.

Reduce classroom review

A handout containing appropriate prerequisite material is given to students on the first day of class. The students work the problems individually and raise questions to the instructor over a week's time. The instructor answers questions, but does not relecture the prerequisite information.

This shifts the focus from the instructor onto the students, where they begin to assume responsibility for their own strengths and weaknesses. Instructor experience has shown this method allows more class time for course content.

Achieve appropriate skills

Here, the material is covered thoroughly in class. Students are made aware that special emphasis is being paid to those concepts essential to success in sequential topics. This technique has been used to mastery test anywhere from 15 percent to 25 percent of the course content.

For both approaches, the next step in the process is a test, where the instructor sets the passing score. The test is administered once in class, while additional retakes are scheduled outside of class.

Current procedure is not to use the numerical score in the semester average and to make a passing score on this test a requirement for successful completion of the course. Instructors could design variations on these aspects. I

n developmental courses, the benefits are increased student retention and success. Data reveal approximately an 11 percent decrease in withdrawal rates, an 8 percent point increase in semester averages, and an 11 percent increase in grades C or better earned.

In upper level courses, the observed benefits include better attendance, improved work ethic and increased motivation and achievement in the entire course. This is exemplified by the increased, positive interaction between the class members and the instructor.

Cost versus benefits

With benefits come some costs. There is more paper work and there is an observed higher withdrawal rate in upper level courses. Care needs to be taken initially, and throughout the term, to adequately inform students of the procedure and to communicate expected outcomes and associated benefits.

Student and instructor cooperation is necessary to facilitate a timely and successful completion of the process.

The benefits far outweigh the costs. The process is quite flexible and can be tailored to fit any instructor's needs.

Mastery learning can be used for learning dates in history, formulas in science or solving equations in mathematics. Critical thinking skills can then be enhanced. One's knowledge foundations are built with mastery learning.

Lastly, the term grade can be calculated from problem solving or case studies while still ensuring that skills are acquired.