

Product Name **MasteringMicrobiology**  
 Course Name **General Microbiology**  
 Credit Hours **Five**

**Key Results** MasteringMicrobiology homework scores have a significant, positive correlation with final exam scores and student learning outcome results.

### Text

*Microbiology with Diseases by Body System*, 3e, Robert W. Bauman

### Implementation

The General Microbiology course was developed in 2010 and is designed for biology, preprofessional, and prenursing majors. It is a traditional course, and includes one lecture and two labs per week.

I adopted MasteringMicrobiology when the course was developed because I believe regular engagement with course material is important for students, and MasteringMicrobiology helps students know how they are doing.

Spring 2012 was the third semester that I taught the course. By then I was more familiar with the MasteringMicrobiology content and regularly assigned homework. My course consisted of a lecture, covering possibly multiple chapters, followed by a MasteringMicrobiology homework assignment comprising interactive tutorials and end-of-chapter questions, and lab time. I also added my course learning outcomes to the MasteringMicrobiology course.

### Assessments

47.5 percent Lab  
 30 percent Exams  
 12.5 percent Final exam  
 6 percent MasteringMicrobiology homework  
 4 percent Participation (clickers)

### Results and Data

An analysis of student final course grades from the spring 2012 semester showed that those students who did better on their MasteringMicrobiology homework also performed better in the course.

- 75 percent of those students who earned an A in the course averaged a score of at least 80 percent on their homework.
- 70 percent of those students who earned a B in the course averaged a score of at least 80 percent on their homework.
- Those students who passed the class with an A, B, or C in the course averaged a score of 80 percent on their homework.
- Those students who did not pass the class averaged a score of 31 percent on their homework.

The study also showed that student final exam scores had a significant, positive correlation with the MasteringMicrobiology homework scores. See figure 1.

An assessment based on the incorporated learning outcomes was given at the end of the semester in MasteringMicrobiology. This assessment also showed a positive correlation with final exam scores. See figure 2.

*“Once one student logs in and starts working in MasteringMicrobiology, more follow. It’s like positive peer pressure. They all want to succeed, and they know that MasteringMicrobiology can help them do so.”*

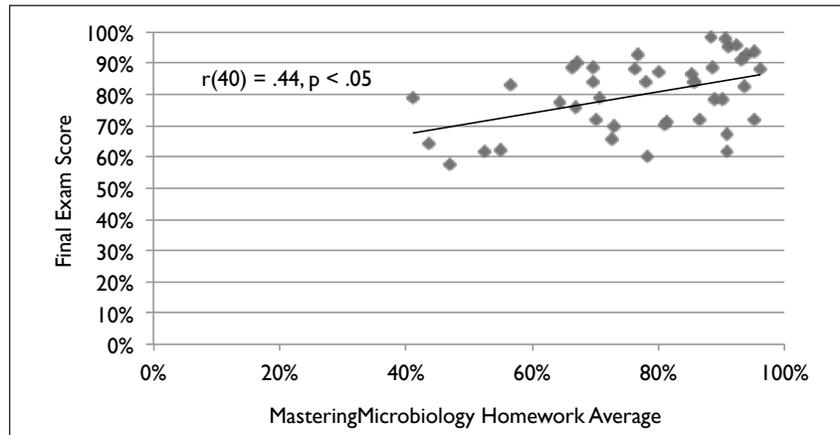


Figure 1. Comparison of MasteringMicrobiology Homework Averages and Final Exam Scores, Spring 2012

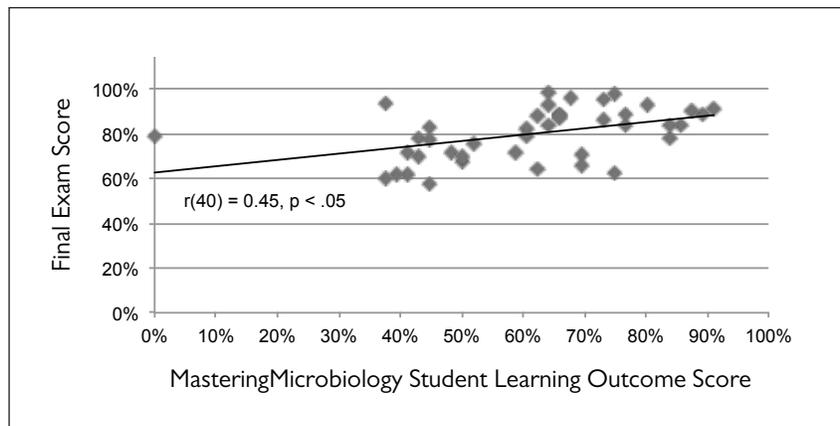


Figure 2. Comparison of MasteringMicrobiology Student Learning Outcome and Final Exam Scores, Spring 2012

### The Student Experience

Students have access to computers in the lab and use their extra time there to log into MasteringMicrobiology. They enjoy having a tool to help them be productive and use it to do homework and watch animations. Once one student logs in and starts working in MasteringMicrobiology, more follow. It’s like positive peer pressure. They all want to succeed, and they know that MasteringMicrobiology can help them do so.

### Conclusion

MasteringMicrobiology can predict a student’s success based on the effort that student puts into the MasteringMicrobiology homework. If a student completes the homework consistently, his or her homework scores and final grade will reflect the effort.

*Submitted by Denise Foley  
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