

Product Name MasteringA&P
Course Name Human Anatomy and Physiology I
Credit Hours Four

Key Results MasteringA&P scores positively correlate with exam and course grades, and contribute to improving the overall class grade average and increasing the number of As.

Text

Human Anatomy and Physiology, 8e, Elaine N. Marieb and Katja Hoehn

Implementation

This is the first in a two-semester course sequence. It covers seven of the major organ systems that include the human integumentary, skeletal, muscular, circulatory, and respiratory structures and functions as related to health and movement. Students taking this course are primarily in the School of Health and Applied Human Sciences. The course includes a lecture and lab.

In fall 2011, after the first exam I sent an email to all the students in the course asking them to take part in a MasteringA&P pilot study. I offered students an incentive to participate in the pilot: one point added to their final lecture grade if they completed 100 percent of the assignments by the assigned date. Participating students were also required to attend two optional focus groups and complete a series of surveys. The final survey included questions about their experience using the program. By the end of the semester, 20 students—34 percent of the class—were involved. Of those students, 11 completed 100 percent of the assignments.

Assessments

In spring 2012, the semester following the pilot study, I implemented MasteringA&P as a mandatory part of the course using the following assessment.

62.5 percent Unit exams (five)

25 percent Lab

12.5 percent MasteringA&P homework

Results and Data

I looked at the grades from the pilot study semester to see how students who volunteered to use MasteringA&P performed compared to students who did not use it. Thirty-nine students didn't participate, 14 participated and completed at least half of the assignments, and six participated but did less than half of the assignments. As shown in figure 1, all of the students who completed more than half of the assignments successfully completed the course and had the highest percentage of As.

Based on the success of the pilot study, including the positive feedback from the students who used MasteringA&P, I implemented MasteringA&P into my spring 2012 A&P I course. I assigned MasteringA&P homework—a mix of tutorials and end-of-chapters questions—for each chapter. I also implemented MasteringA&P into my A&P II course starting fall 2012.

The results of my first semester fully incorporating MasteringA&P mirrored the pilot study results. The percentage of F grades remained the same between the two groups. A significant ($P \leq 0.001$) increase was observed in mean test grades from spring 2011 (71.8 ± 7.8) to spring 2012 (77.9 ± 10.6). The average MasteringA&P scores (82.0 ± 14.3) were significantly ($P \leq 0.01$) and positively correlated ($r = 0.60$) with the average test scores (see figure 3). There was a shift in the grade distribution favoring those in the spring 2012 class, such that the percentage of C and D grades decreased, the percentage of Bs increased from 11 percent to 20 percent, and the percentage of As increased from 0 percent to 6 percent (see figure 2).

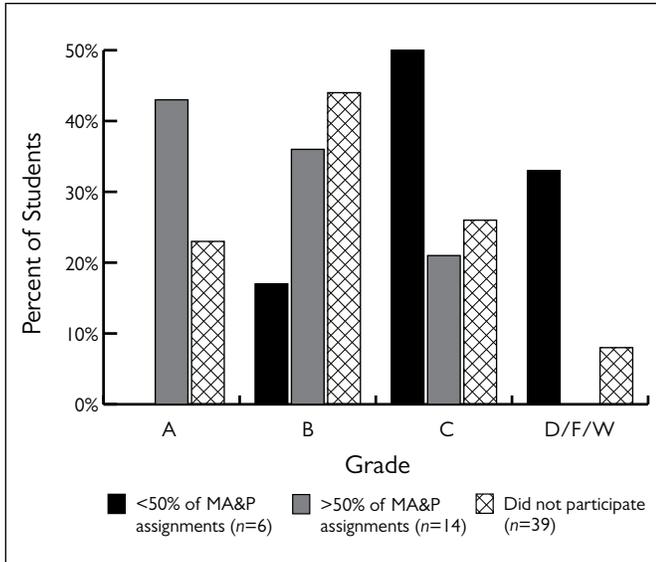


Figure 1. Human Anatomy and Physiology I Pilot Study Grade Distribution, Fall 2011

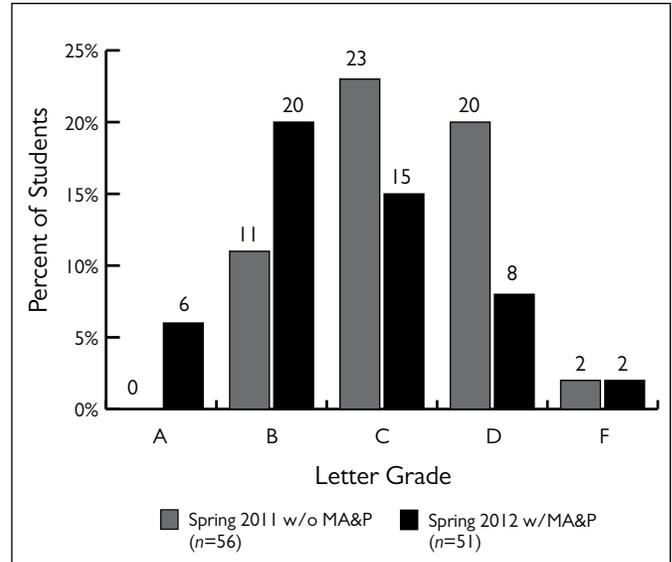


Figure 2. Human Anatomy and Physiology I Grade Distribution, Spring 2011 and Spring 2012

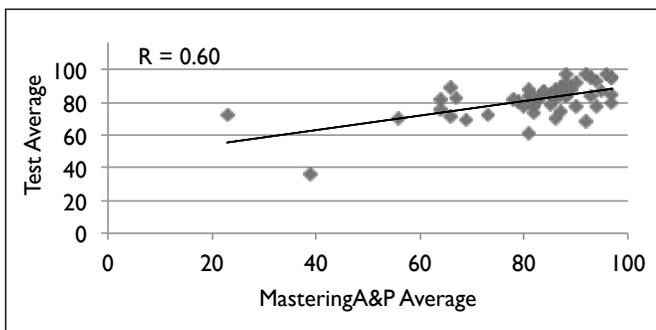


Figure 3. Correlation between MasteringA&P Scores and Average Human Anatomy and Physiology I Test Scores, Spring 2012

The Student Experience

Those students who participated in the spring 2012 focus group reported that MasteringA&P content was helpful in learning the material and that it positively impacted their test scores. Some students reported initial registration or login issues during the first evaluative interview, but all feedback in the second interview was positive and included the following:

- “Love it.”
- “Helps me focus on what to study.”
- “Reinforces concepts.”

At the end of the semester, the overall rating for the program was good to excellent. One hundred percent of the students interviewed said they would recommend MasteringA&P to a fellow student.

Conclusion

I adopted MasteringA&P for both A&P I and II after seeing the success of the pilot study and receiving positive student feedback. I’ve continued to see positive results with MasteringA&P after my first semester of full implementation, and I strongly believe that it is an effective elearning tool that helps students learn more and do better in the course.

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