

Product Name **MasteringGeography**
 Course Name **Earth Systems Science**
 Credit Hours **Four**

Key Results MasteringGeography provides students with the resources they need to succeed in self-guided learning, thereby enabling instructors to allot more in-class time to active learning.

Text

Geosystems: An Introduction to Physical Geography, 8e,
 R.W. Christopherson

Implementation

The goal of Earth Systems Science is to offer each student a better appreciation and understanding of planet Earth through an earth-systems approach to studying the planet. This includes all of the Earth’s spheres—the atmosphere (weather and climate), hydrosphere (water in all its forms), lithosphere (earth’s surface), and biosphere (living plants and animals). Students of any major take this course. It includes both a lecture and lab.

I am a big proponent of active and self-guided learning, and believe that students need continuous interaction with the materials to succeed in the course. In spring 2012 I adopted MasteringGeography because it includes resources to help achieve those goals. I assign MasteringGeography prelecture homework and postlecture quizzes for each chapter that we cover. The assignments include reading questions, end-of-chapter questions, and tutorials.

Assessments

- 66 percent Exams (three at 22 percent each)
- 20 percent Lab
- 9 percent MasteringGeography homework
- 5 percent Lab exam

Results and Data

To understand the impact that MasteringGeography had on my course, I analyzed my students’ results and found a positive correlation between MasteringGeography scores and the final course grade. Student scores on MasteringGeography predicted half of the variation in final course grade, despite MasteringGeography assignments accounting for only nine percent of students’ final scores (see figure 1).

The results also showed that more than 99 percent of students who completed their MasteringGeography assignments with an average of 80 percent or higher successfully completed the course with a final grade of A, B, or C.

In addition, I conducted a student survey which indicated that students overwhelmingly believe that MasteringGeography benefitted them in the course, and that they would recommend the use of Mastering courseware in all available courses (see table 1).

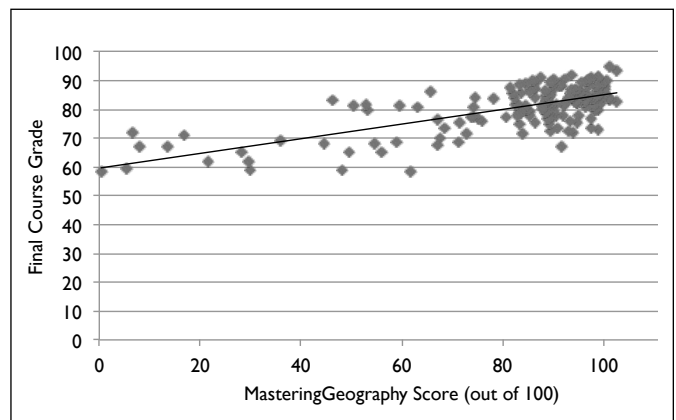


Figure 1. Correlation between MasteringGeography Scores and Final Course Grades, Spring 2012 (n=168, r²=.50)

“The results showed that more than 99 percent of students who completed their MasteringGeography assignments with an average of 80 percent or higher successfully completed the course with a final grade of A, B, or C.”

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Use of MasteringGeography increased my understanding of the course material.	32%	59%	6%	–	3%
Use of MasteringGeography positively impacted my exam scores.	44%	50%	6%	–	–
I recommend the use of Mastering software in courses for which it is available.	35%	47%	15%	3%	–

Table 1. Student Survey Results, Spring 2012

The Student Experience

My students report the benefits of MasteringGeography as: 1) providing the flexibility to work when they want, 2) being able to interact with the material as often as needed and in different formats, and 3) identifying what is important based on what is assigned.

In a 2012 survey, students were asked what they liked best about MasteringGeography. Their comments included:

- *“[MasteringGeography] explained the material in a different way than in class—it helped me understand the concepts that were difficult to comprehend.”*
- *“I loved the study sections. They really helped prepare me for the test. The practice greatly helped me to understand the materials.”*
- *“I liked that the quizzes and assignments gave me hints and explained where to look in the book when I didn’t understand something. I also liked the interactive animations.”*

Conclusion

Based on the positive course results and student feedback for MasteringGeography, I will use it again in spring 2013. In addition, I adopted MasteringEnvironmentalScience for my fall 2012 Introduction to Environmental Geosciences course.

To further increase my students’ incentive for active learning and to help achieve my goal of flipping the classroom, in spring 2013 I will increase the number of credits earned by completing MasteringGeography homework and quizzes. I also plan to decrease the amount of in-class time spent lecturing and increase the amount of time devoted to interactive learning activities, including discussions, debates, and small group projects on data analysis and interpretation.

*Submitted by William D. Heyman
Texas A&M*