Introduction

Tutoring is a challenge in the online classroom. To determine whether students would use tutoring if it was offered online and to assess the best method for delivering tutoring services, two approaches to online tutoring were piloted.

Two departments used different approaches to offering tutoring in the online classroom—the computing course offered tutoring assistance within the online class and the science course offered tutoring assistance in a separate online class.

Rationale for Choosing the Courses

In the computing department, selected sections of CMIS 140 Introductory Programming were chosen for tutoring assistance. CMIS 140 is a high-enrollment course, the first in the computer and information science curriculum. It is a 3-credit course that is offered both online and on-site with an average enrollment of 600 students per year. Students in this course are likely to be computing majors. This course is the focus of university efforts for retention.

In the science department, two courses were chosen for tutoring assistance. BIOL 101 Concepts of Biology and BIOL 102 Laboratory in Biology are high-enrollment, introductory courses designed for students who are not science majors. BIOL 101 is a 3-credit course and BIOL 102 is the 1-credit lab that accompanies it. Both courses are offered online and average 3,000 enrollments per year. These courses fulfill the general education requirement for science for the state of Maryland. These courses are also the focus of university efforts for retention.

Approach to Tutoring

The tutors for the CMIS 140 classes had at least a bachelor’s degree in the computing area and had experience as tutors. However, they were not faculty members. The tutors were enrolled into selected sections of the course; not all sections were selected for tutoring assistance because of a lack of available tutors. Tutors were assigned first to classes being taught by new faculty or faculty teaching that course for the first time.

In this model, a study group was created within each classroom in which the tutor interacted with students. The faculty member and teaching assistant could monitor the activity within the study group. The tutors
answered questions posted asynchronously in the classroom (via the conference function or via e-mail) and conducted one three-hour synchronous chat each week.

The tutor for the science classes was a biology faculty member, but was not the faculty member teaching BIOL 101 or BIOL 102. The tutor supported three sections of BIOL 101 and BIOL 102. The sections chosen were an early, a mid, and a late section in terms of registration.

In this model, a separate online classroom, BIOL 800, was created, and all of the students in the three sections selected for support were rostered into the BIOL 800 classroom. Modules from each course were present in the tutoring classroom. The tutor answered questions posted asynchronously in the classroom conference space. The faculty members teaching BIOL 101/102 did not have access to BIOL 800.

**Summary of Results**

In the CMIS 140 classes, each tutor supported two sections of the course per semester, each with an average of 20 students. Students utilized both methods of tutoring: asynchronous (conferences and e-mail) and synchronous (chat). Some students chatted every week. An average of five students (25 percent of the class) used the service; usage of the service was higher when the professor encouraged use. Students asked questions about material covered throughout the semester. Questions for the tutors were appropriate, with only a few exceptions (e.g., one student asked for “sample” code that he could use to complete the homework).

In the science classes, tutoring usage was greater for BIOL 102 than for BIOL 101. There was a low level (11–12 percent) of participation in both classes. Many of the questions for BIOL 101 concerned information from the first module. There were no questions about labs 1 and 2 in BIOL 102; there were many questions for labs 4–13.

**Lessons Learned**

- Students may be more reluctant to ask questions when the faculty member can see the questions that are asked (as in the approach used in the computing classes).
- If synchronous chat is used, consider varying time each week to accommodate worldwide time zones.
- Ability to offer tutoring is limited by the lack of tutors. Tutors reported that online tutoring requires more preparation; preparation for online tutoring may require keeping track of projects, homework assignments, and conference discussions.
- In the science classes, the name of the classroom will be changed to “Student Learning Center” so it is not identified as tutoring.
- The faculty tutor will be asked to offer one online, synchronous chat every week in the BIOL 800 classroom.
- The Student Learning Center will be offered to six sections of BIOL 102 only.

**Conclusions**

- Students do use tutoring services in an online environment.
- Faculty input should be solicited concerning format and use of tutoring.
- Both synchronous and asynchronous models were successful.

**About UMUC**

University of Maryland University College (UMUC) is one of the 11 degree-granting institutions in the University System of Maryland. UMUC has but one focus—meeting the educational needs of the nontraditional student. UMUC offers classes at many locations throughout the Maryland region and an unparalleled selection of undergraduate and graduate degree and certificate programs entirely through asynchronous online courses.

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