

COVER SHEET

MODELS OF INNOVATION & BEST PRACTICES IN TEACHING & LEARNING AT UND

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STRATEGY:

Using on-line content quizzes through Blackboard to encourage students to read required textbook and learn basic facts and definitions on their own before material is covered in class.

CLASS(ES) AND CLASS(ES) SIZE WHERE UTILIZED SUCCESSFULLY:

Used in BIOL 332 General Ecology where class sizes ranging from 20 students (summer offering) to 140 students (fall offering).

STRATEGY'S APPLICABILITY: WHAT KINDS OF STUDENTS (FRESHMEN/ MAJORS/ GRADS, ETC.), COURSES, LEARNING ENVIRONMENTS, ETC.?

This is a robust strategy that should be adaptable to any size class with students at any level.

ABSTRACT OR SYNOPSIS OF STRATEGY YOU ARE SUBMITTING:

On-line content quizzes were developed to encourage students to keep up with reading, to learn basic facts on their own, and thereby freeing up class time for active learning and encouraging higher-order thinking. Content quizzes were administered over Blackboard BEFORE the material tested in the quiz was covered in class. This rewarded students for reading their text books, encouraged students to not fall behind on their reading, and provided me with timely feed-back on what students did or didn't understand from their textbook. This feedback ultimately allowed me to spend less time on material that the class had learned from their textbooks and more time on active learning. Additionally, the content quizzes provided a pre-test, post-test type assessment tool.

NARRATIVE

A. STRATEGY

BIOL 332 General Ecology is a large, lecture based course required of all Biology majors. In many ways it is like an upper level survey course, in that this is the first course in Ecology that students will take after the Biology introductory sequence. For many students this is the only Ecology course that they take, since around 90-95% of the Biology majors in the course at any one time are hoping to go into a medical profession. Due to these circumstances General Ecology needs to cover a large amount of material.

When I first started teaching General Ecology This situation was problematic for two reasons: 1) I wanted to have the course address higher-level understanding and use active learning which takes away time from covering material in lecture; and 2) Students were asked to read a lot from the text book and many would quickly fall behind and not be able to catch up with the reading. Students falling behind in their reading would just amplify problems of coverage of material as students were less and less prepared for class and therefore less and less able to meaningfully participate in active learning or engage higher level thought in the course.

I needed a way to encourage student reading and preparation for lecture. I reasoned that students like to do things for grades and so to encourage reading and preparation for class I should somehow tie a grade to those activities. At the same time, I was interested in the capability to use Blackboard for conducting quizzes outside of class time. This led me to the idea of a content quiz – an electronic quiz that asks questions about basic facts and definitions from the assigned reading for the upcoming week. Students had to take the quiz online during a three to four day window of time BEFORE the material was covered in class. The quizzes were worth a small part of the course grade (10-15%). So if a student kept up with their reading, read well and carefully and did well on the quiz then they could be rewarded with a good grade in that portion of the course grade.

B. STUDENT LEARNING

The primary goal of this strategy was to teach students how to keep up with reading and how to pull out factual information from their reading. I am convinced that content quizzes encouraged timely student reading because many, many students commented on the quizzes in their student evaluations, often expressing how the quizzes helped them keep up with the material.

A secondary goal of this strategy was to free up more time for active learning and higher-order thinking in class. This has been the case since I initiated the content quizzes. I can view the class results on the quiz over Blackboard before starting the material that week and then only need lecture on topics that the class did not do well on in the quiz. This has freed up more time for the active learning that I have been incorporating into General Ecology.

An unexpected benefit of adding content quizzes to General Ecology is they provide a new avenue for assessment of student learning. I can use some of the questions that were poorly done on the content quizzes on the regular exams to assess student learning in a pre-test, post-test design. This has proven valuable for considering the impact of the more active learning approaches that I have brought into the classroom.

C. OTHER INFORMATION

I believe this could be a very robust approach to encouraging student reading and preparation for class. Furthermore, modern pedagogical best practices often require class time that used to be set aside for transmitting facts and content quizzes seem to be a way to ensure that the facts are acquired before class or if not acquired can be addressed in a very focused way in class. Content quizzes will be quite flexible as the level of question can be adjusted to the level of student (freshman vs. graduate) or the goals of the instructor (basic facts vs. synthesis). I think this robustness of the strategy makes it a good candidate for sharing with the broader university community.