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Large Enrollment Classrooms: A Stark Reality for Public Higher Education

A Vexation

One hundred fifty students in an auditorium is not the ideal teaching environment. However, it is a reality. For most public institutions of higher learning, economic considerations, and not research about effective teaching, dictates the size of the enrollment in our courses. For those teaching freshman this means regularly facing the now almost cliché, “large enrollment course.” Having accepted this reality, I have proposed to my administrators that my anatomy and physiology course automatically enroll every freshman at the U of Minnesota; we could meet in the football stadium and I could use the PA system for sound, show graphics and animations on the scoreboard, archive PowerPoint files on the web, and to make the course “cool,” we could install wireless internet and podcast everything. For some reason they laugh at this idea. Things remain the same. They schedule me to teach my course in an auditorium with 150 students - where I use a PA system so everyone can hear my voice, show animations on a projection system to illustrate concepts, archive *Power Point* files on the web for students to access on their own time, and so on.

Large lecture courses are frustrating for both students and instructors. I suspect that when students first arrive at the large lecture hall, they are filled with awe. Many are enrolling in their first university science course and have likely experience high school science classes of less than 30 students. I can imagine that most of my students report to their friends and family about the size of their biology class. But this awesomeness must often revert to a sense of the awfulness of the experience. They gradually realize that their professor cannot learn everybody’s name and even unlikely to recognize faces. Research clearly indicates that small enrollment courses (usually 20 students or fewer), have greater retention, greater student satisfaction, etc. But large enrollment courses will not go away, and professionally, we still try to create the best possible learning environment for our students.

What’s a professor to do?

A Venture

Over the years I have been developing interventions to make large enrollment courses “smaller;” finding activities that utilize small group learning. My latest venture is an on-line anatomy game titled “The Anatomy Bowl.” The game allows students to compete against each other in a Jeopardy-like activity that gives students three minutes to answer 25 questions pertaining to bones, muscles, organs, histology slides, etc. After a game has been completed, students see their scores in relation to the other students who have just played the game, and also in relation to the high scores over the previous few days – very similar to an arcade game. The game runs via a large database of topics and questions that are randomly selected for each game. A universal clock is used to synchronize the games – when a student

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logs-in they compete against all the other students playing at that time, and all see the same set of questions. (The game site is located at:

<http://msjensen.education.umn.edu/webanatomy/game/>)

I am proposing using the game in two different environments. First, in a computer lab where individual students compete against each other, e.g., forty students competing for a top score, and also in a group arrangement where groups of 2 or 3 students work at one computer to compete against other groups of students. In both cases, the “winners” of the games will receive bonus points on a future quiz or test – I do not want to punish low scorers on the game so at this time I am only using bonus points. In this environment I hope the games promote a learning environment where students learn each other’s names, personalities, work ethic, etc., as well as learn anatomy and physiology.

The second setting for the game is the home or dormitory environment. The Anatomy Bowl can be used by anyone at most anytime, but I am proposing that every night of the semester at 10PM there is an organized set of games that students have the option of playing, and in a class of 150 students, the odds of more than a few students playing the game at 10 PM is pretty high. During the 10 PM games, students will play against each other and performance records will be generated and archived. To promote the game, I’ll present awards during lectures, maybe bonus points, to the highest scorer, or most frequent user of the games.

In both the computer lab and the home/dorm environment, my goal is to promote a group of “gamers” who get to know each other through the use of The Anatomy Bowl. I’m not expecting every student to use the game – some students don’t like games and may not even like technology. However, current research indicates that there are many students, mostly males, who are skipping classes, and sometimes even dropping out of college, because of the over-use of video / computer games. If I can get students to use the anatomy game to succeed in my course, and maybe even become friends with a few other students, they just might be able to succeed in college.