Attachment 1 – Lecture Course Development History

Formerly I used standard lectures with chalkboard drawings, 16 mm movies, and 2 x 2 film slides to show biological structure and concepts. In following years the chalkboard was replaced with custom overhead transparencies, and movies and 2 x 2’s were replaced with custom Powerpoint slides. The format remained one-way and gradually I became discouraged with passive learning.

A first attempt to promote active learning was an assignment to outline a textbook chapter and pose one question before attending class, and before leaving submit it on paper for credit. It seemed that students were better able to answer my questions in lecture and more students responded but quantitative data were not obtained. On a couple of occasions, when I was behind schedule, student questions could be used in class and I realized this might be a good teaching device. Thus the next format was to submit via email the outline and question a few days in advance. It was tedious to handle 90+ email messages and papers and a simpler online approach was sought.

About this time I learned of Just in Time Teaching (jittdl.physics.iupui.edu/jitt/) where pre-class assignments are delivered “just in time” to influence lecture content. I discontinued outlines and adopted a pre-class assignment of reading the textbook, answering 10 questions based on this reading, writing one question, and sending all to me in advance. I culled the questions and chose a few students to call on in class. Discussions improved but were negatively affected by student absences and forgetting their questions because they did not keep a copy. I therefore began presenting questions and names in a Word document shown in class. This format was satisfactory – students were more attentive, fewer skipped class, and test scores seemed to improve (difficult to assess).