A 3-component Hybrid Model for Traditional Courses

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Abstract

A project sponsored by the Andrew W. Mellon Foundation at the University of California at Davis, evaluated ten large undergraduate courses offered as both traditional and on-line versions. The on-line versions were typically hybrid models and experience with developing these courses led to an extension of the hybrid model to three components. Two components are on-line, one fully asynchronous and the other synchronous or nearly so. The third component is face-to-face. The model accommodates different teaching styles and can accommodate different learning styles dynamically when fully implemented. The approach is well suited to a traditional undergraduate curriculum where students proceed in a cohort. It is not a good fit to training environments where students achieve mastery at their own pace.

The University of California at Davis, with additional funding from the Andrew W. Mellon Foundation, has offered ten large undergraduate general education courses in both traditional and on-line versions, over the last 2 years. The courses were in multiple disciplines, such as food science, psychology, Asian art and so on. These quasi-experiments are being evaluated by a team of investigators with the primary aim of comparing the cost-effectiveness of the traditional and on-line versions of the courses [1]. This paper is about our experience with matching the instructors’ teaching styles with the on-line (or hybrid on-line) delivery methods.

Most of the Mellon-UC Davis courses were developed using a hybrid model in which the lecture material (course content) was reconstructed as on-line virtual lectures using a sophisticated multi-media approach [2]. Typically, discussion sections and office hours were offered in-person to complement the on-line content. Such on-line components need to be prepared well ahead of the course delivery, with proper review and testing. Content for inclusion in on-line materials needs to be finalized and available to the graphics/programming team several months before they are due to be delivered to students. With proper cooperation between the content provider and the technical team, this approach results in reliable high quality course content.

However we found that this scenario is inconsistent with many instructors’ teaching styles. Instructors often create and modify their courses as they go, in response to new ideas, events and student requests. Thus there is a disconnect between the way many instructors run their courses and the way in which high quality multiple media courses are produced.

An alternative approach is to record each lecture on a set schedule and have it released in a video format synchronously or soon (1 - 48 h) after the recording. This allows the instructor to use his/her original visual materials, digital or otherwise, and modify them at will. At the present state of the art of video recordings, there will be some, but limited, ability to navigate and search the recordings, view visual materials at high resolution, and link to other components of the course. The approach also requires students with "56k" modems or less to purchase or view a videocassette, or a CD or DVD copy of each lecture if they want to keep up with the schedule. At UC Davis, large courses in “Introduction to Wine Making” and in “Comparative Religions” are using this approach. The School of Engineering at Stanford University pioneered this approach and continues to use it successfully.

The first of these on-line teaching styles — planned well ahead of time and completed and tested before the course starts — has pros and cons. The big advantage we found for the planned approach is that subsequent offerings of the same course can build on the first. In general, the real power of an on-line course is not apparent until the computer contributes services above and beyond presentation of content. The simplest example is a glossary (which takes care of most "questions in lecture" issues) plus frequently asked questions plus intelligent searching; then there are self-test questions with links to and from the content; then there may be tutorials to review pre-requisites or present a different approach to difficult subjects; then the computer might offer different approaches depending on a students’ GPA or performance to date in the class or on learning style or on modules previously viewed. As more services become available and the computer has access to more data about...
each student, so the computer can provide a personalized learning experience approaching one-on-one teaching.

The second on-line teaching style involves “real time” or near “real time” response to ideas, events and students. This makes the course more relevant and interesting, which encourages students to keep up with the lectures, improving retention and/or performance. The pre-production costs are much lower for the first offering of such a course, making it quicker and cheaper to offer initially. However, costs for subsequent offerings of the course will not drop much. Although this teaching style allows for near “real time” response to students, all students experience the content delivery in essentially the same way, independent of the students’ learning styles.

The usual “hybrid” or “blended” course involves a mixture of on-line materials or activities and face-to-face events. Our experience has moved us to a 3-component hybrid model, which includes both types of on-line experiences as well as face-to-face activities, in order to capture the advantages of each teaching style and adapt better to each student’s learning style. In this model, the course content is captured ahead of time and reconstructed into a content-delivery system that is Web-friendly, intelligent and makes appropriate use of multiple media. A low cost alternative is to use a textbook with Web supplements for content delivery. The second component is produced during each actual offering of the course. A regular (e.g. weekly) on-line newsletter or lecture is recorded by the instructor and made available immediately to the students. The course management system in use can also provide timed release of activities like weekly quizzes. This near “real time” component provides immediacy to the course and guides students through it, helping them to keep up and perform well. The third component is face-to-face. The most successful applications of the hybrid model in the Mellon-UC Davis project have been those in which the face-to-face sessions are devoted to developing higher order thinking skills in situations relevant to the course content [3].

The 3-component model for hybrid courses requires students to take the course as a cohort, which is a reasonable constraint in a traditional undergraduate curriculum based on quarters or semesters where students are expected to achieve varying levels of mastery of the subject matter and the associated skills and attitudes. It is less appropriate in a mastery-based training environment where each individual student determines the pace of the course.

