Chapter VIII

Creating and Using Multiple Media in an Online Course

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Abstract

The adaptation of a traditional, face-to-face course to an online format presents both challenges and opportunities. A face-to-face fundamentals course treating the science of musical sound and the methods used to code and transform musical sound using digital computers was adapted for online delivery. The history of the course and the composition of its audience are discussed, as are the decisions to create movies, web pages, electronic mail, and a paper textbook for the course. Practical choices for technology, which reflect the conflicting benefits of choosing simple versus more sophisticated technology, are outlined and the reactions of the students to these choices are discussed. An anecdotal comparison between an online and a face-to-face course section is offered, along with ideas for future development.


Background

*Computers in Musical Applications* is a course that has been offered in the Esther Boyer College of Music for 16 years and serves as a prerequisite for three music technology courses. The course was designed to provide students who expressed an interest in electronic and computer music with a detailed knowledge of the principles of acoustics and computer engineering that define the processes of digital recording, editing and synthesis of sound, and, to a more limited extent, digital video. When the university faculty adopted a core curriculum in 1986 that required a two-course sequence in science and technology, *Computers in Musical Applications* was proposed to serve as a second-semester core science course. The course would follow an acoustics class that was offered by the Physics Department and required of all music students. Since 1986, it has been offered each year with section enrollments ranging from 10 to 60 students.

Initially the course was taught in a traditional, face-to-face format that included a weekly, two-hour lecture class and a one-hour laboratory section comprised of small groups of students taught by a graduate student. The textbook for the course (Dodge & Jerse, 1985) was the same one used in a subsequent software synthesis class. The transition in 1986 from a small, self-selected class of technology enthusiasts to a large group of students with varied interests was challenging and was made more so by external factors such as the absence of a large lecture room with desks, difficulty in recruiting lab instructors with the necessary background and teaching skills, students’ lapses in retained knowledge from the acoustics class, and complaints about the purchase of an expensive textbook of which only a few chapters were used. Another challenge was offered by the academic schedule of music students. Music ensembles such as orchestra carry only a one semester-hour credit but meet at least three hours per week with additional rehearsals and performances according to the college performance schedule. Faculty are expected to routinely excuse students from academic classes several times in a semester to participate in rehearsals and performances, and graduating seniors miss additional classes during the week of their senior recitals. As a result, class attendance is less than consistent. Also, the instructor is asked to provide considerable time outside of class teaching missed material. Finally, many music students are foreign students for whom English is a second language, and who struggle with comprehension in lecture classes. An opportunity arose to revise the course to address these challenges when *Computers in Musical Applications* was offered as an online course.
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