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Internet-based Instruction: Experience with Multi-University Co-operative Learning

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Introduction

The Internet today provides many opportunities to change the way we try to educate our students. It has the potential to transform the way we teach and students learn. Current and emerging Internet technologies are in the process of revolutionizing one to one, one to many and many to many communication. In the traditional education paradigm, an instructor and students meet for specific time periods at a specific location. Typically, students are asked to come to these meetings having completed some assignment, which typically involves reading assigned material. The face-to-face sessions might include a lecture by the instructor, interactions between students and instructor and student-to-student interactions. A key feature of this model is that all communication is synchronous (i.e., in realtime).

Until recently, this was the only economically viable education model. However, technological advances and explosive growth of the Internet are rapidly eliminating the time and space constraints inherent in the existing model. For example, now one can easily have students view a video of an instructor's lecture from anywhere and at their leisure, and students and faculty can chat (using text, audio or video) without getting together physically. Moreover, asynchronous (i.e., non-realtime) communication over the Internet can now be user-friendly and conducive to certain types of educational experiences. For example, material best taught via active interaction among participants (e.g., case discussions) has traditionally been done in a classroom with face-to-face interaction. While this format undoubtedly has many benefits, non-face-to-face and asynchronous interactions can be beneficial as well. Case discussions and discussion of other materials can easily be held, on the Internet, using newsgroups and bulletin boards. These types of discussions can occur asynchronously, i.e., members of the group do not have to be there at the same time and can join the discussion from any location on the planet if they have Internet access and have some free software installed. This type of discussion holds at least one advantage over the traditional discussion format; it enables us to allow students to join in the discussion from anywhere.

Together, technologies that enable one-to-one, one-to-many and many-to-many communication on the Internet and allow synchronous and asynchronous communication, make it much more likely that we can provide valuable educational experiences without a time and space constraint, i.e., we can deliver valuable educational experiences entirely over the Internet. In fact, such experiences, at least on some dimensions, may provide better "education" than does our current model. For example, we may much more easily involve multiple instructors in a course (drawing upon a larger store of knowledge) and students with very different backgrounds and experiences.

Issues and Discussion

The Internet offers the opportunity to develop new educational paradigms; ones that are not constrained by time and space. At this point, faculty at a number of Universities are experimenting with different delivery forms. These are risky undertakings. They require a large time commitment and the benefits are uncertain. What are the costs? What are the benefits? These are just two of the issues that anyone attempting such endeavors would like to have answered. It is therefore imperative that we share our experiences, to help reduce the costs and alleviate some of the uncertainties for those who are contemplating similar exercises. These are some of the questions that we will address in this workshop.

We have led some of the efforts to bring together students and faculty at many universities to discuss cases and conduct other group meetings on the Internet. Blake Ives, for example, led the discussion of the Mondex experiment last Fall. Participating in that discussion were faculty and students (students enrolled in courses on different continents) from around the globe. Blake was also involved in the virtual doctoral seminar in information systems, held in the fall of 1997. This Spring, Brian Dos Santos led an effort to bring a smaller group of faculty and students together to discuss the "Competition in the Dutch Flowers Auction"

case (Kambil and van Heck, 1996). The Mondex case was discussed again this Spring by students enrolled at different Universities; albeit on a much smaller scale than the experiment last Fall. Munir Mandviwalla is organizing the ISWorld Net Virtual Meeting Center (VMC). The goal of the VMC is to lead and support activities such as the Mondex case study and other intra-university projects. The VMC will provide resources in the form of servers to support activities such as real time discussion and presentations.

In this session we will present our experiences, focusing our discussion on student learning, student acceptance and cost to faculty. We will relate our discussion of these issues to the technologies used in these endeavors.

References

Kambil, A. and E. van Heck, "Competition in the Dutch Flowers Market," http://kambil.stern.nyu.edu/teaching/cases/auction/flowers.html, 1996.