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The Trans-Pacific electronic tutorial

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The Trans-Pacific electronic tutorial

Abstract

In the past couple of years there has been an explosion of interest in the phenomenon of networking within Australian and U.S. universities. The Internet grew out of a United States Department of Defense network founded in 1969, was converted by the USA National Science Foundation to a research network in the 1970s, was extended to global academic use in the 1980s, and, now, is becoming a major tool for businesses worldwide. The Australian Academic Research Network (AARN et), an Internet gateway, has provided an opportunity for educators and students to be instantly interconnected with colleagues at other universities in Australia and overseas as well as with vast amounts of electronic information. Initial academic enthusiasm for networking technologies focused on research applications but teaching applications are equally important. One network application, electronic mail, (e-mail) is proving to be very popular in universities and also in the commercial world. The ability to work with electronic mail is now becoming one of the essential skills for working in an office. Electronic mail provides students with a way to collaborate on course projects with colleagues and experts spread around the world. When these students leave the university, they will bring these international collaborative skills to their work places, making it possible for small as well as large businesses to easily market and distribute their products abroad. Providing communications costs can be kept down, the application of electronic mail to teaching is very likely to gain further popularity. However, like all new communications technologies, the medium can alter the way we communicate. Educators need to be aware of this if the technology is to be put to good effect.

The authors of the following article, both of whom work in the field of information technology, have a commitment to introducing their students to the practice as well as the theory of using electronic communications. This article describes how they incorporated the use of Email into their respective courses in Australia and the United States. In keeping with their enthusiasm for cross-continental research, the article itself was written collaboratively by EMail!

The Trans-Pacific Electronic Tutorial

**Richard Joseph
and Deanna
Robinson**

In the past couple of years there has been an explosion of interest in the phenomenon of networking within Australian and U.S. universities. The Internet grew out of a United States Department of Defense network founded in 1969, was converted by the USA National Science Foundation to a research network in the 1970s, was extended to global academic use in the 1980s, and, now, is becoming a major tool for businesses worldwide. The Australian Academic Research Network (AARNet), an Internet gateway, has provided an opportunity for educators and students to be instantly interconnected with colleagues at other universities in Australia and overseas as well as with vast amounts of electronic information. Initial academic enthusiasm for networking technologies focused on research applications but teaching applications are equally important. One network application, electronic mail, (e-mail) is proving to be very popular in universities and also in the commercial world. The ability to work with electronic mail is now becoming one of the essential skills for working in an office. Electronic mail provides students with a way to collaborate on course projects with colleagues and experts spread around the world. When these students leave the university, they will bring these international collaborative skills to their work places, making it possible for small as well as large businesses to easily market and distribute their products abroad. Providing communications costs can be kept down, the application of electronic mail to teaching is very likely to gain further popularity. However, like all new communications technologies, the medium can alter the way we communicate. Educators need to be aware of this if the technology is to be put to good effect.

Since early 1993 we have been actively encouraging students to use electronic mail as part of their tutorial work. This article, written collaboratively across the Pacific via e-mail, reports on the international cooperative project that has evolved from the skills we are developing. We compare our trans-Pacific experiences by labelling each section "Richard" or "Deanna".

Origins

Richard

My interest in the 'electronic tutorial' as I call it originated from the fourth year and Masters level subject, IACT 412 /912 International Communications, in the Bachelor of Information Technology degree offered by the Department of Information and Communication Technology. This subject deals with the political aspects of international communication as well as with the way international telecommunications are organized and regulated. However there is nothing like practical work to demonstrate new ideas and to develop student learning. That can be pretty hard in the area of international communications because communication costs can

be high and expensive equipment is often not available. Electronic mail now provides a cost-effective way of giving students 'hands-on' experience with a relatively 'new' communications technology as well as providing a medium for the exchange of research material and ideas.

The opportunity to put these ideas to the test came in early 1993 when I met at the Pacific Telecommunications Council's annual conference in Hawaii with Professor Deanna Robinson of the School of Journalism and Communication at the University of Oregon in Eugene, Oregon, USA. We had been communicating by electronic mail prior to this meeting. Professor Robinson was also looking for ways to introduce her students to electronic mail. It just so happened that we were both teaching groups of similar size and in related subject areas. In this way the 'happy coincidence' of the trans-Pacific tutorial between Wollongong and Oregon was able to get underway. Support for these ideas from within my Department was also vital in getting the project underway smoothly.

Deanna

Because of budget cuts, the University of Oregon has been examining ways to increase teaching productivity while simultaneously improving the way we prepare students for the information age. We view electronic education as being a much greater part of universities' missions worldwide as we enter the new era.

Meeting Richard at the PTC meeting was fortuitous, indeed, because we quickly perceived that we teach comparable courses and are both interested in providing our students with international, collaborative experiences that enhance their ability to work cross-culturally and electronically. These goals fit well with those of the University of Oregon because our cross-Pacific course also helped identify and solve problems associated with electronic teaching.

Objectives

Richard

The main benefit of the cooperative venture is its potential to enhance teaching both generally and specifically in the subject area of international communications. One of the learning objectives for the subject IACT 412/912 is that students should be able to 'synthesize issues by utilizing their skills in communication, communications technology, presentation and participation'. Students were

effectively being asked to integrate the concept of communication and the act of communicating about research with the use of a communications technology (viz. computer networks in general and the application of electronic mail specifically). Both these tasks reflected in a practical way the theoretical aspects of communication, telecommunication and electronic information flow being discussed in lectures.

Deanna

Electronic education is expected to assume at least three functions within the university context.

1. It will provide students with the electronic research and collaborative communication skills they will need to live and work in the information age. Memorization of "facts" was appropriate for industrial-age, life-long jobs that emphasized mastery of a defined body of knowledge. In the information age, however, people are likely to work at several jobs throughout their lifetimes. Each of these jobs will require the kind of flexible, universally-applicable skills that enable groups of people to define, research, and solve problems together. Frequently, members of these groups will be separated geographically and will be working electronically. Indeed some workers may do their jobs almost completely via electronic communication. One way companies are thinking of cutting costs is to send their workers home and have them telecommute, thus eliminating the need for elaborate office space. We want our students to be prepared for this new environment.
2. Universities worldwide, as a result of declining budgets, are assuming a more entrepreneurial role. Distance education represents a way to reach more students while at the same time offering those on campus better educational experiences. Conceivably, people living in Wollongong will be able to earn a degree at the University of Oregon and vice versa in the not-too-distant future. This means that universities will be competing for students in each other's backyards. Collaborative distance education benefits all involved institutions by providing a bigger resource base and eliminating competition among consortium members.
3. Because people are likely to work at more than one job in the future and because many fields now change so rapidly, universities are recognizing the need for larger continuing education programs. Many courses offered for life-long training also will be taught at a distance. Because we now have the technology for desktop-to-desktop multimedia education,

universities can offer courses to individuals in their homes or businesses. Students can work with colleagues not only via e-mail but also through shared files that all members of a class see at the same time on their computer screens. Students also can see each other via computer-to-computer video conferencing.

Assessment

Richard

I expected my class to work in small groups and communicate in a fairly unstructured way with a corresponding group of students in Oregon. The outcome for my students was to be a tutorial paper where each member of the group provided an individual commentary on a research theme. The research for the tutorial paper was based on their group work and whatever information they could obtain from their American counterparts. My students were expected to reciprocate in providing information.

In addition to the research aspect of the task, my students were specifically required to reflect on the experience of using electronic mail to achieve a specific task and how the technology affected their ability to work in a group. Assessment of this type allows the students to give constructive feedback on the teaching techniques as well as providing the lecturer with an informal guide on student performance and the effectiveness of the technology itself.

Deanna

The University of Oregon is on the quarter system whereas Wollongong operates on semesters. Thus, Richard and I had to do some adjusting of our courses to make them mesh. He covers more material than I do in the space of one course so I combined students from two of my courses into teams with Richard's students. Those courses, International Communication and Telecommunications Policy, cover approximately the same topics as Richard does in his single course. In order to expedite the joint research between Australians and Americans, we worked out two large themes: "cultural imperialism" for the International Communication students and "universal service" for the Telecommunications Policy class. Student teams defined sub-topics for these themes and individuals in each group were asked to outline what their research

contributions would be those sub-topics. They were required to learn how to get connected to Internet, how to upload and download electronic files between desktop computers and the University's mainframe, and how to send and receive files between Oregon and Wollongong.

Outcomes

Richard

As we come to the end of session (Autumn Session 1994), my students have completed their tutorial papers. They have made some insightful comments on whether the use of electronic mail worked or didn't work. In a sense this reflective side of the project will help to refine our understanding of the role that electronic mail and networking may play in an educational environment. I expect to be able to report further on this at a later stage. The experience of Professor Robinson's students will also be helpful to add to this.

Deanna

Our courses concluded the first week of June. Some of the students are working over the summer to combine team contributions into unified class reports. These documents will be made available electronically to next year's students. Thus, students in subsequent classes will not start at "ground zero" but, rather, will build upon the research accomplished by their predecessors. In this way we will build electronic databanks on various topics.

The major problem we encountered during the Oregon-

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Wollongong collaboration was getting everyone trained electronically. Because people use unique sets of computer equipment—for example, different word processors, types of computers, communication software, and so forth—it is especially difficult to help them learn to upload and download files. The process took so long that the term was half over before people could really begin communicating between the two schools. The solution for this problem lies largely beyond the control of Richard and myself. Schools need to standardize system parameters as much as possible and to greatly increase the consulting resources available on campus.

Some Initial Observations

Richard

First, the benefits of engaging students in a practical use of communications technology which involves an international and cross-cultural dimension far outweighs any problems caused by the limitations of the medium. Electronic mail can provide the initial impetus for cooperation and the exchange of information which I hope will extend well beyond the completion of the subject. An additional benefit is that students learn not just about 'information' or 'technology' but rather the 'exchange of information'. It is this last feature which is often forgotten by researchers and educators alike, especially when the focus is in the transmission aspects of technology. Getting the right sort of timely information is harder than it seems, even with the sophisticated technology.

Second, electronic mail needs to be complemented with conventional communication channels (e.g. telephone, fax, post) if the group work is to be completed effectively. Students needed to send hard-copy to their counterparts overseas and this is not so easy if electronic mail is the only medium relied on.

Third, electronic mail appears to presume that both the sender and the receiver look frequently at their electronic mailboxes. On the one hand, the need to communicate and 'navigate' around the various electronic sources of information can raise skill levels quickly. On the other hand, the communication process can be slowed down if participants are not frequent users of the network. Access to computers on campus is also another issue. Students may not have the time to be frequently looking for electronic mail messages in the heavily used computer rooms around campus.

Finally, there are numerous educational issues arising from this experience which will need further investigation. For example, apart from the logistics of working and forming tutorial groups, there are issues to do with privacy of communications, the way we communicate electronically, the extent to which the lecturer should intervene or direct communication and how tertiary education itself could be altered by the use of these technologies.

Deanna

Richard has identified some of the problems with electronic educational collaboration. As we teach our electronically-connected students over a number of years, the technology, bureaucratic organization, and academic procedures will improve. Perhaps the biggest hurdle is identified by Richard when he says people have to check their e-mail regularly. The students we had in our classes this time were innovators. They were willing to change their ways of doing things, to give up the security of operating in the same old way. Not everyone is willing to do this and, consequently, there is much resistance to electronic communication on the parts of both faculty and students. This will be the biggest hurdle to overcome because electronic communication requires people to change many of their assumptions about what education is and how schools should operate.

Conclusion

The experience of the 'trans-Pacific electronic tutorial' to date has been enlightening for both students and the lecturers involved. One outcome may be that closer cooperation between the two universities could evolve to the extent where regular staff and student exchanges are possible. These possibilities will eventuate if we are prepared to manage the use of electronic mail effectively for teaching and research purposes and ensure that access to is both widely available and relatively cheap.

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