Introduction to the Asynchronous Learning Networks Mini-Track

Starr Roxanne Hiltz *roxanne.hiltz@worldnet.att.net* New Jersey Institute of Technology
Jerry Fjermestad *fjermestad@adm.njiit.edu* New Jersey Institute of Technology

As described in the call for papers, Asynchronous Learning Networks (ALNs) use computer-mediated communication to support online courses of study. "Asynchronous" refers to anytime, anywhere access to interactions among the students and the teacher/facilitator via the Internet, as a key element. The "Learning Network" refers to the community of learners who work together to build and share knowledge. The asynchronous nature of the interaction leads to new paradigms for teaching and learning, with both unique problems of coordination and unique opportunities to support active, collaborative (group or team-based) learning.

Although ALN's have existed since the early 1980's, there are still many unresolved research questions and issues. The two groups of papers selected focus on two of these issues. One is, how do software, teaching and the role behavior of both students and teachers have to change in order to be most effective online? The paper by Coppola and colleagues is based on semi-structured interviews with faculty members, and describes the overall nature of role changes that are involved in "becoming a Virtual Professor." They found changes in the cognitive, affective, and emotional roles of faculty, part of an overall shift towards becoming a "digital Socrates."

The work by Dufner, Kwon and Rogers describes a pilot study of the use of what they call a "CyberCollaboratory." Whereas most ALN environments have group discussion (computer-mediated conferencing) and Email, and many have synchronous chat, they have created an enriched environment for student collaborative work, which includes Group Decision Support Tools and Collaborative Document Production.

If mastery of the material in a course can be validly measured by objective questions, then there is a variety of software that can provide online testing. However, what if performance in a course requires essay type questions and problems? What is the appropriate way to assess performance in such cases, other than requiring distance students to find in-person proctors? One possibility is to actually assess students on the basis of the quality and quantity of their online participation— the pros and cons of such "mandatory participation as examination" is examined by Nulden and his colleagues. Another possible approach, a totally collaborative examination process in which the students make up the questions and grade each other, as well as answering questions, is the online pedagogical innovation documented in the case study by Shen et. al.

A second research question is, how effective are ALN courses, particularly as they compare to courses delivered by traditional face to face mode? Spencer and Hiltz survey 30 published empirical studies of ALN's. The majority are case studies of a single course, often by the instructor who taught it. Of the 15 studies that compare modes of delivery, 5 report that ALN is as effective as traditional delivery methods, and ten report that the results are better in some way.

Levin, Levin and Waddoups report data on an entire online master's program at the university of Illinois. . One measure of its extraordinary success is that all 26 of the students who started in the summer of 1998 graduated in May 2000..They conclude that "building and maintaining a learning community" is extremely important in achieving success. They also emphasize that it is "critical" to implement systematic program evaluation, and to use it both formatively in improving the program, and to provide guidance to others for improving future online efforts.

Finally, Benbunan et. al. use content analysis to look at how interaction differs between online and face to face teams engaged in a case study assignment. The face to face and online teams used different coordination strategies in their work. The findings are that ALN-mediated groups had broader discussions and submitted more complete reports than their manual counterparts.

Among the issues not touched on in this group of papers is how specific characteristics of the technology used may improve or detract from ALN effectiveness and influence the roles played. For instance, what system features are especially helpful to support a rich online discussion and team work? For one way delivery of materials such as lectures, is there any difference between videotapes, and Powerpoint plus Audio via the Web? Does including some synchronous (same time) sessions add to or detract from the building of the learning community? Hopefully future research will also look at these research questions.