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EDITORIAL

This annotated bibliography describes experiences in distance education and computer-mediated communication (CMC). I have deliberately tried to compile a bibliography of articles from different parts of the world and to show a variety of CMC approaches. The search resulted in an abundance of articles from North America and quite a few from Europe and Australia, but relatively few articles from the rest of the world.

As an extra service for DEOSNEWS subscribers, I have included e-mail addresses to some of the authors who are willing to respond to questions and comments about their articles.

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COMPUTER-MEDIATED COMMUNICATION AND DISTANCE EDUCATION AROUND THE WORLD

An Annotated Bibliography
By Morten Flate Paulsen

AUSTRALIA

Harry, K. and A. Castro. 1988. Electronic information exchange: The dream and the reality. In *Developing Distance Education*, eds. D. Sewart and J. S. Daniel, 238-41. Papers submitted to the 14th World Conference in Oslo, August 9-16. Oslo: ICDE.

Briefly describes the development of AOLIN, the Australian Open Learning Information Network, and of an informal bibliographic database working group, since the Thirteenth World Conference of the International Council for Distance Education in 1985. Identifies international initiatives during the same period which have made recommendations regarding information and documentation on distance education. Outlines the characteristics of an ideal electronic network linking distance education practitioners and indicates what is actually possible in terms of one-to-one and one-to-many communication, and identifies current problems (The ICDL Database accession #10000803)

Monro, D. 1987. Quality distance education = computer based feedback + electronic mail. In *Using Computers Intelligently in Tertiary Education*, eds. J. Barrett and J. Hedberg, 147-52. A collection of papers presented to the Australian Society for Computers in Learning, November 29th to December 3rd 1987 Kensington, NSW: ASCILITE.

The Riverina-Murray Institute of higher Education offers a post-graduate Diploma in Computer Applications. The course is offered only externally and utilises AUSTPAC as the primary instructional and communication medium. The paper describes the types of facilities which have been investigated and developed, in an attempt to provide an enhanced learning environment for the external student. Two of the facilities discussed are the use of electronic mail and computer based feedback. The use of electronic mail has meant that the external student can have the same

types of regular communication with lecturers which an on-campus student takes for granted. Computer based feedback has provided a periodic assessment mechanism, controlled by the student, which highlights areas of learning difficulty by directing the student to material in the prescribed texts and notes. The combination of these facilities has proved highly effective. Not only has the marking load on staff resources dropped, but students are able to ask questions relating to their particular difficulties, and receive direct advice on overcoming those problems. (Author's abstract) (The ICDL Database, accession #10000619)

CANADA

McCreary, E. 1989. Computer-mediated communication and organisational culture. In *Mindweave: Communication, Computers and Distance Education*, eds. R. Mason and A. Kaye, 101-112. Oxford: Pergamon Press.

The article describes the impact computer conferencing has had on the University of Guelph's organizational culture, and concludes:

"After five years of exposure to the medium we do not feel we have mastered it, or even fully harnessed it. It continues to surprise us. In a non-directive way CMC is giving us a stimulating new experience of ourselves as an organisation. Its impact on overall organisational vitality has been positive but not unequivocal" ... "the only way human beings can individually or collectively be 'more vital or alive' than 'just alive' is to be more conscious, and for better or worse CMC has made us that."

CHINA

Gao, F., W. Li, and D. Li. 1989. A PC-based Audio/Graphics/Video Image Satellite Communication Education System and its Applications. *Educational & training technology international* 26(3):248-53.

This paper describes a pc-based communication system equipped with audio, graphics, and video devices for enhanced versatility. On a single telephone line, the system allows you to transfer graphics and still video along with ordinary voice. Both teacher and students can use an electronic pen and a tablet to transmit handwriting and drawing in real time. An image capture facility

allows the users to capture computer graphic and still-pictures from sources like camcorders, videotapes, and monitors.

In March 1988, over 300 people took part in the first international teleconference using this system. Seven cities in U.S. were connected to Beijing. Later, the system has been used to provide students in Beijing with lectures from U.S. about cell biology, expert systems, and features of American college teaching.

The article concludes that the system is a versatile and inexpensive new tool for teleteaching.

DENMARK

Bang, J., and M. Moller. 1990. Computer conferencing in Danish distance education. In *Media and Technology in European Distance Education*, ed. A. W. Bates, 249-252. Milton Keynes: Open University for the EADTU.

This article describes the use of PortaCOM, a Swedish computer conferencing system, for distance education at the Jutland Open University (JOU) in Denmark. The authors present preliminary experiences gathered from three Arts Foundation Courses, one Archaeology course, and one Mass Communication course; all of them delivered in 1988 and 1989.

JOU practices a group-oriented concept, where students are organized in classes of 20-35 students. The groups meet in face-to-face seminars five or six times a year. Between the seminars, the students use PortaCOM as a course supplement.

In some of the courses, the students had the necessary communication equipment at home; in other courses, the students had to use the equipment at one of JOU's five study centers.

"The students with the home based personal computers have found that computer conferencing has facilitated communication with their teachers and fellow students. These students completed the arts foundation course with better grades than on similar courses where computer conferencing had not been used." . . . "the conferencing system has been a very useful addition to their distance education." . . . "It has been hard to motivate students without home-based personal computers to use computer conferen-

cing. They seem unwilling to leave their homes and go to a study center for communication, when they could just as easily grab the phone or mail a letter."

Christensen B. B. 1990. Teachers and CMC at Jutland Open University: A case study. In *Media and Technology in European Distance Education*, ed. A. W. Bates, 253-258. Milton Keynes: Open University for the EADTU.

This article concentrates on the teachers' role in the Arts Foundation courses at Jutland Open University (JOU). Five teachers were engaged in the three courses conducted in 1988 and 1989. Just one had a university degree where computers were a part of the study, the others had no computing skills. Their expectations about CMC ranged from sympathetic to very negative.

Christensen points out that experiences from just five teachers are too sparse to draw any firm conclusions, but some of her initial conclusions are: "CMC gives more work to the teachers, but extra teaching hours have not been added to the courses;" ... "the teachers have to be trained in the technical and especially the educationally use of CMC;" ... "experiences of teachers in previous years must be passed on to new teachers." ... "I am more and more convinced that many of the problems we are observing are not primarily due to CMC, but in part due to the implementation of it and in part to the way that distance education is organised. It is not CMC that causes the problems, but we become aware of the problems because of CMC. CMC can be an important tool in solving these problems."

FINLAND

Manninen, J. 1991. Computer conferencing and self-directed learning - Experiences from computer-mediated facilitating. Paper presented at the Fifth International Symposium on Adult Self-Directed Learning, February 24-26 at Norman, Oklahoma.

The paper is based on two experiments from two one-month courses in Finland. The first course - Philosophy of Adult Education - was held at the Helsinki University in spring 1990. The students were offered the option of doing the course-work by participating in discussion-groups in PortaCOM. 12 students, age 20 to 35 took

part in the course. They all had basic computer skills, and still face-to-face meetings were arranged to train them in using PortaCOM. All of them had daily access to a computer either at home, at work, or on campus. An average student logged on to PortaCOM 39 times, spent 59 hours online, and sent 29 messages. Some group discussion took place.

The second course - Introduction to Adult Education - was held in the fall 1990. Thirty students at the Open University, University of Helsinki used TradePost (Telebox) for communication. The students, aged 35 to 50, were trade union members from metal industry and child care. All had access to a computer at home, at work, or at a trade union center. All of them had completed a theory course about computer conferencing, so no face-to-face training was provided. The average student logged on just a few times and was online about 2.3 hours. No discussion took place, and in several local groups the system was handled by one person who took care of the mail for his peers.

The paper concludes that students must have daily access to computers, they must be given the ability to use the equipment, and each student must use the system on their own.

FRANCE

Guihot, P. 1989. Using Teletel for learning. In *Mindweave: Communication, Computers and Distance Education*, eds. R. Mason and Anthony Kaye, 192-195. Oxford: Pergamon Press.

The article describes the use of the French videotex system Teletel (also known as Minitel) for education. The widespread access to Teletel terminals resulted in several activities starting from 1986:

- For a per hour fee, educational services on Teletel provide services like: anonymous teachers answer home-work questions via e-mail; and databases with model answers to questions asked in national examinations.
- Teletel equipment has been distributed to French schools.
- Teletel has been used in university applications like: initial registration of students in the universities in Paris; information services to prospective and current students, teaching at

the University of Paris-Dauphine.

- The Ministry of Education has established EDUTEL, an information service aimed at parents and school staff.

INDONESIA

Brochet, G. and E. K. McCreary. 1990. Telecommunication across continents: Indonesian/Canadian cooperation on the Sulawesi regional development project. In Proceedings of The Third Guelph Symposium on Computer Mediated Communication, 350-360. University of Guelph, Guelph, Ontario.

International development projects require advanced communication tools. Time differences can be a problem, telephone calls can take hours to place, and Telex may be inconvenient. This paper, describes the use of the CoSy computer conferencing system by Project staff to facilitate communication between sites in Canada and Indonesia. Since 1984, the system has provided daily e-mail and CMC contact between staff members on either side of the world. PT IndoSat, the Indonesian telecommunication provider, established satellite links for the project.

The paper concludes that the project: .. "repeatedly confirmed the significant advantages of CMC over more traditional forms of management communication. The speed, degree of detail, technical reliability, relative confidentiality, relative candour and immediate, permanent documentation afforded by CMC communication, surpass the alternatives and have established this medium as indispensable to this type of project. The Sulawesi experience holds significant promise for any rural development project involving comparably complex work in remote sites."

LATIN AMERICA

Thorngate, W. and B. Klejner. 1990. Developing countries and communications: A Latin American example. In Proceedings of The Third Guelph Symposium on Computer Mediated Communication, 395-403. University of Guelph, Guelph, Ontario.

From June 1987 to December 1989, about 15 medical scientists in Latin America and Canada used EIES and Bitnet for communications. EIES was accessed via the host computer at New Jersey Institute

of Technology, U.S.A., and Bitnet was accessed via the host computer at Carlton University in Ottawa, Canada. Most of the scientists used e-mail frequently, but they used computer conferencing very little. The problems with technical equipment and local telephone connections were chronic. Most participants could not maintain a telephone connection for more than about fifteen minutes at a time. The telecommunication infrastructure in Latin America is a major obstacle for projects like this.

NETHERLANDS

Meurs, C. E. J van, and P. A. J. Bouhuijs. 1989. Tele-education: An experiment on home computing at the Dutch Open University. *Open Learning* 4(1):33-36.

The article describes a nine-month pilot project conducted by the Dutch Open University. In 1987, 668 students enrolled in the course: Systems and Systems Controls. Of these, sixty volunteer students and two tutors took part in the Tele-education experiment. The sixty students were supplied with a pc, a printer, and a modem. Both hardware and communication were provided free of charge. The course had three media components: print, computer-aided learning, and computer-mediated communication.

The computer-aided learning components were: an introduction to the computer, a distribution system game, self-assessment questions, tutorials, and simulations. The computer-mediated communication system consisted of e-mail, a bulletin board system, and a system for file-transfer.

The authors state that: "The results of this project were rather disappointing." Furthermore: "no educational advantages of a Tele-education approach over a standard distance education course could be detected." The Tele-education course was even rated significantly lower than the original course with regard to freedom of time and place. The overall judgement of the computer aided learning courses, however, was positive.

The authors also state that the benefits of computer communications may be less in Netherlands than elsewhere, because the country is densely populated without any remote areas.

NEW ZEALAND

Sheffield, J. and R. J. McQueen. 1990. Groupware and management education: Matching communication medium to task requirements. In Proceedings of The Third Guelph Symposium on Computer Mediated Communication, 181-192. University of Guelph, Guelph, Ontario.

The University of Auckland has developed a groupware system to support synchronous group sessions. This paper reports the experiences from a management course exercise using the groupware. Two groups of ten students took part in an assignment using the Nominal Group Technique. One of the groups utilized the groupware, the other group used traditional tools like wall-mounted sheets of paper and felt markers.

Both groups were satisfied with: "the technical and the socio-emotional aspect of the discussion." The students using the groupware completed the assignment in less time than the other students, and as the result of the groupware process, they had developed a written assignment report.

NORWAY

Rekkedal, T. 1990. Recruitment and study barriers in the Electronic College. In The Electronic College - Selected Articles From the EKKO Project, eds. M. F. Paulsen and T.Rekkedal, 79-105. Oslo: NKI Forlaget.

The article describes results from an in-depth telephone interview survey among 20 prospective computer conferencing students, 26 correspondence students, and 20 computer conferencing students, all in connection with NKI's ten-course Information Processing Program. The interview period was June 1st to June 20th 1989, and the respondents were those the interviewer was able to reach via telephone in this period.

The conclusions from the interview are:

- The Information Processing program can be studied in four different ways: Full-time and part-time on campus, and through both correspondence and computer conferencing. The different alternatives seem to reach different target groups with different needs. Studies via correspondence or via computer conferencing seem to attract different student-groups, who deliberately choose the method they prefer.

- Distance education through computer conferencing has functioned quite well.
- There is a need for improved information to prospective students about technology and cost of courses taught via computer conferencing.
- Lack of modems and limited knowledge about the technology is a major recruitment barrier for computer conferencing courses.
- Research is needed to find better methods for teaching via computer conferencing.

Soby M. 1990. The Postmodern condition and distance education - computer conferencing and communicative competence. In Proceedings of the Third Symposium on Computer Mediated Communication, 112-120. University of Guelph, Ontario.

The article discusses the new facilities and opportunities computer conferencing offers distance education, and describes the NKS College experience with the PortaCOM conferencing system in the fall 1989 and the spring 1990. PortaCOM was initially offered as one compulsory part of the course: The Computer as a Tool, in the NKS Business Administration Program. After a while, student pressure entailed opening of conferences for the two courses: Statistics and Economics as well. PortaCOM was used as an adjunct to correspondence tuition, telephone contact and face-to-face contact. In the 1989 spring term, about 100 students logged on to PortaCOM. The average student was online 17.5 hours. About 30 students were very active, 30 were medium active and the rest were "lurkers". Interviews with the students conclude: "CMC supported their study activity and responsibility towards their own education and supported the co-operation among the students."

In the 1990 spring term, the NKS College established these conferences on PortaCOM: three for PC as a Tool, two for Economy, two for Organisational Behaviour, one for Management, one for Administration, and the Cafe Online. About 600 students enrolled and 300 used PortaCOM actively.

U.S.A.

Coombs, N. 1989. Using CMC to overcome physical disabilities. In *Mindweave: Communication, Computers and Distance Education*, eds. R. Mason and A. Kaye, 180-185. Oxford: Pergamon Press.

This article describes the experiences from two CMC courses that the author, who is blind, taught at the Rochester Institute of Technology. Both courses were about Modern American History, and comprised: a textbook, the television series "America: The Second Century," and computer conferencing via VaxNotes.

The first course, in 1986, enrolled 13 students. The teacher conducted face-to-face classes and moderated the computer conference with the help of a personal computer with speech synthesizer. The students: "evaluated all aspects of the computer more favourably than they did either the videos or the text. They rated the conference discussion very positively." One of the students was hearing impaired. The second course was further developed for hearing impaired students, utilizing captioned video as well as computer conferencing.

Coombs states: "The handicapped, once having learned the basic technologies, can participate equally with their disability being invisible."

Phillips, G. M., G. M. Santoro, and S. A. Kuehn. 1988. The use of computer-mediated communication in training students in group problem-solving and decision-making techniques. *The American Journal of Distance Education* Vol. 2 No. 1. 38-51.

The following is an abstract written by the authors: "This article describes the use of computer-mediated communication in a small group performance course. Typical instruction in such courses is often ineffective because instructors are unable to monitor group discussion effectively. Through the use of a computer network, three objectives were achieved: 1) instructors were able to closely monitor progress in the groups; 2) students were provided with detailed feedback about their performance of communication skills in their groups; and 3) the instructional staff was able to increase their monitoring efficiency to effectively advise more groups than in non-computerized group performance courses. The details of the evaluation, feedback, and computer system are explained."

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