Profile

Applications and Implications of Distance Education: Manitoba

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Abstract: Education in Canada is profoundly influenced by two of Canada's most distinctive features: its vast geography and its small. widely dispersed population. In considering the applications and implications of distance education in Manitoba, it is important to remember that the majority of its population is based in the southern cities of Winnipeg and Brandon. in fact. Manitoba's three universities are located in these two cities and in addition. two of the three community colleges are also based here. The third, Keewatin community College. is situated in The Pas ond has a satellite campus in Thompson. This demographic condition has provided encouragement for Monitobans to develop and use communications technologies in many diverse activities which will be outlined in this article. In looking at the applications and implications of distance education, it is useful to note that the one common concern underlying all distance education projects in Manitoba is to extend access to educational opportunity. particularly to remote and northern regions.

THE HISTORY AND DEVELOPMENT OF DISTANCE EDUCATION IN MANITOBA

Radio and Television

One of the earliest uses of educational radio originated in Western Canada in 1941 and is known as "Farm Radio Forum". It served as a radio discussion program and was subsequently adopted in a number of developing countries. "The lessons which were learned from this model, such as the use of forums, multi-media, printed materials, two-way communication and various production techniques (drama, interview, panel discussion) were then introduced in India early in 1956, and in Ghana in 1964, with the initiative and sponsorship of UNESCO" (Nwaerondu & Thompson, 1987). The Canadian experience with educational radio has been quite useful to developing countries in providing experience and general lessons that give support to the view that radio is an effective medium of instruction especially because of its widespread availability in developing countries.

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In Manitoba, the widespread availability of television and video recorders as well as a good cable system has prompted the Department of Education, through the Correspondence Branch, to initiate a pilot project (established in 1984) called Manitoba Educational Television (METV). Their mandate is to enhance in-school and at-home learning opportunities for Manitobans by offering college credit courses, pre-school, primary, junior and secondary school programmes, as well as native education, French language and adult literacy programmes.

METV has partial TV production facilities located in Winnipeg but for the most part has purchased existing programmes from agencies outside the province. Learning support for the in-school programmes is largely the responsibility of the individual schools and teachers, who receive broadcast schedules from METV. It is important to note that students register for courses and receive supportfrom the Department's correspondence branch. Support for the college credit courses is the responsibility of the participating colleges and students register directly with the colleges who provide study support materials, assignments, and tests. METV estimates that their programmes are available to 950,000 viewers through broadcast and cable services. METV continues to grow and expand and serves as a useful means of providing educational opportunities at all levels to Manitobans throughout most of the province.

Telephone (Teleconferincing)

Teleconferencing is a popular means of delivering educational services to remote sites in Manitoba. One of the pioneers of this communication technology is the University of Manitoba which uses dial-up audioconferencing to link the (teleconferencing) studios at the university with conferencing facilities in **16** communities in rural and northern Manitoba. The U. of M. reports that the audioconferencing system is in use for approximately 3 hours per day, 5 days per week during the academic year.

Inter-Universities North (I.U.N.), a consortium of the 3 Manitoba universities whose mandate is to deliver university credit courses in the northern part of the province, currently uses teleconferencing for about 40% of all its course offerings. Both organizations encourage at least one site visit per term by instructors and support their courses by print materials, and videotapes where possible. In addition, each site has a part-time coordinator who supervises the equipment, sets up the conferences and providesbasieadministrative support. Class sizes range from a minimum of 5 students per site to a maximum of 15.

Another example of the use of teleconferencing in Manitoba is the delivery of teacher education courses through the B.U.N.T.E.P.(Brandon University Northern Teacher Education Programme) to remote northern communities. In January, 1985, the course *Survey of Exceptional Children* was offered simultaneously in several B.U.N.T.E.P. centres. This project was initiated by PACE. (Program for adult and continuing education) division with the

assistance of Manitoba telephone system. A network was established to make telephone bridging services and classroom telephone speaker systems available to any programme using teleconferencing to teach adults. Funding was made available to all post-secondary institutions to begin developing courses for delivery by teleconferencing and as a result 32 courses or subjects have been developed. One of the more interesting examples of this development is the joint delivery (University of Winnipeg and Red River Community College) of a course entitled, *Human Anatomy and Physiology.* The course contains a full lab component that can be completed at home using kits that are mailed to the students. The course is of particular benefit to remote nursing students and qualifies for both university and college credits.

There are also some good examples of the use of distance education at the secondary school level. The Souris Valley School Division has piloted ***Calculus*** 305 using a combination of teleconferencing and computer conferencing to its schools at Wawanesa, Hartney and Souris. Students receive and submit assignments through the Manitoba Information Network (MINET) while instruction and interaction is facilitated by teleconferencing. Print materials are supplied by the Correspondence Branch and line charges are paid by the Distance Education and Technology Branch. The schools participating in the project have agreed to give credit to their students who pass the course, and where a student is not affiliated with a particular school, the correspondence division will issue the credit. Lloyd and Karen Paulson, the husband and wife team who wrote and teach the course, estimate a 50-80% completion rate. An informal survey has indicated that last year's Calculus 305 students are doing very well in university studies.

This pilot project has been so successful that there are plans to expand the number of courses offered through MINET to include 2 courses in Computer Science (BASIC and PASCAL) and a course in grade 12 Physics. One result of the pilot project is the discovery that the following elements are needed to develop a first rate distance education program:

1) appropriately designed courseware;
2) elements that humanize the learning process;
3) tutorial support; and
4) effective evaluation and student tracking.

Computer Conferencing

Education Minister Roland Penner has announced a 250,000 dollar grant to the Manitoba Computer Assisted Learning Consortium (MCALC) to develop courseware to meet the needs of the province's small schools, and remote northern communities. According to Education Manitoba, in the past year and a half MCALC has marketed 60 new programs in English and French. The Manitoba Information Network (MINET) enables schools to access a host computer by using the telephone system and a microcomputer. It is a joint venture (industry and government) whereby Cybershare provides the re-

sources of the host mainframe computer, Manitoba Telephone System supplies the telephone and DataPac facilities, and Educational Technology Program (ETP) provides the products and services. The ETP also provides professional development open to all education personnel throughout the province.

In 1983, two professors at University of Manitoba (Drs. Kinsner and Pear) became involved in an on-going project to adapt the principles of Keller's approach to teaching at the post-secondary level known as personalized system of instruction (PSI) to computerization. Their approach, is called computer-assisted personalized system of instruction (CAPSI). Briefly, the main function of the computer is to give tests to students who request them, to assign markers, and to keep track of the progress of each student through the course. CAPS1 has been used successfully at the University of Manitoba for both on-campus and off-campus learning in the area of psychology. It is also being considered for teaching in engineering.

The experience with CAPS1 is important for several reasons. Primarily it suggests that it is a powerful teaching method with wide generality CAPS1 makes it possible to thoroughly monitor, analyze, and evaluate a significant portion of the behaviour and learning in the course. It also opens the door to the next stage of computer-aided instruction, in which the computer will become more intimately involved in the educational process by aiding in the development of course materials and in the evaluation of the student's learning.

In concluding this brief look at the applications and implications of distance education in Manitoba, I have discussed only those projects (with the exception of "Farm Radio Forum") with which I have been personally involved, either directly or by association. In each case, the technology employed, whether computers, television, or teleconferencing, has proven itself to be a useful tool in providing educational opportunities which otherwise would not be available.

A serious implication for all of these projects, and a general concern, is that they have failed to become integrated into mainstream programming. 'Teleconferencing, perhaps the most widespread means of delivering education at a distance, has not been well received in all communities, particularly those that are Northern and Native. CAPS1 has attracted only a handful of students even though regional media, such as C.B.C. North Country radio, has predicted a bright future for computer-assisted learning in the North. As a rule, the public school system has been slow to utilize any of the new communication technologies although nearly every school in the province is linked to a sophisticated computer network (MINET).

One reason for the slow, but steady, development of distance education in Manitoba is the paucity of funding for new and existing programs, which is always a problem in a poor province. As well, in every instance where technology was introduced into the school environment it has not been well received when it has failed to take into account the prevailing social structure (ie. "the way things are done around here"). The I.U.N. experience with

teleconferencing in the Island Lake region, is a case in point. On the positive side, the Manitoba experience represents an excellent model of cooperation and collaboration between industry and government. Together they have promoted communication technologies as a means of expanding educational opportunity to selected students through distance education.

REFERENCE

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