EDUCATIONAL TELECOMMUNICATIONS IN BRITISH COLUMBIA

The second stage of this study considers the educational telecommunications situation in the province of British Columbia in Canada. British Columbia depicts aspects of the various patterns of educational communications in Canada: it has individual institutions that have independent programs of distance education, and it also has government attempts to provide centralized focus for distance education, resulting in the creation of an autonomous distance education institution, the Open Learning Agency, as well as the creation of an educational communications network, the Knowledge Network.

The data in this chapter is presented in the following sections:
- The overall development and present situation in the province
- The Open Learning Agency
- The University of British Columbia
- Simon Fraser University
- Other Distance Education Programs in B.C.

THE OVERALL PICTURE OF DISTANCE EDUCATION IN B.C.

Background

British Columbia is the western-most province of Canada. Separated by a mountain range and the prairies from the more populous and industrial east, British Columbia has had to contend with a geography, climate and resources different from the rest of Canada. As a consequence, it has evolved its own version of Canadian culture and ethos. Its employment and educational needs are peculiar to its region.
"British Columbia's 366,000 square miles contain half-dozen major mountain ranges, a large island, and many small islands, so transportation is difficult and expensive. About a third of its population of three million people is scattered in small cities, towns and individual homesteads over the vast and rugged B.C. landmass, causing great difficulty in the equitable provision of educational services across the province. For these reasons, distance education at all levels has been especially important to British Columbians, and British Columbia educators have been and are especially anxious to experiment and discover its full potential." (George et al, 1989).

**Post-Secondary Education in British Columbia**

The administration of education in British Columbia has been split into the two areas of

1. K-12 and high school completion, and
2. adult education and college and university-level courses.

During the 60s and the 70s, these were handled under the Department of Education, which became the Ministry of Education in 1983-84. In 1984-85, The two areas were split into two different ministries. While the Ministry of Education handled the K-12 and high school completion, the Ministry of Universities, Science and Communications was put in charge of university-level education. The Ministry of Post-Secondary Education was created soon after, and college and university education came under it. A change of political power in the province in 1986 brought about a further change in the government of education. University-level education was now placed in the hands of the Ministry of Advanced Education and Job Training, while the K-12 sector remained with the Ministry of Education. Thus, while school education has had a steady environment of development, post-secondary education has been aligned and re-aligned with various other areas, including
science and communications at one time, and now with employment-oriented training. The administration of distance education activities has thus moved, with post-secondary education, from the Ministry of Education to the other ministries mentioned above.

The Ministry of Advanced Education and Job Training is currently responsible for colleges, provincial institutes and universities; apprenticeship training, science and technology; and the women's secretariat and youth council. The government-funded public system of post-secondary education includes 15 community colleges; four provincial institutes - the Open Learning Agency, the British Columbia Institute of Technology, the Emily Carr College of Art and Design, and the Pacific Marine Training Institute; and three universities - the University of British Columbia, the University of Victoria, and Simon Fraser University. (B.C. Ministry of Education handout for International Students, 1988). A Distance Education Branch exists in this ministry and handles matters relating to the Open Learning Agency and the Knowledge Network. (Reid, 1988).

The provincial Ministry of Advanced Education and Job Training funds the B.C. Open University Planning Council, which allocated funds to the "Partners in Open Learning". (These "Partners" are the various distance education institutions in the province, including the Centre for Distance Education at SFU). The funds currently amount to $2.76 million for the three provincial universities.

The conditions of post-secondary education in British Columbia are undergoing several problems. While there has been a growth in the number of individuals aspiring towards college admission, funding cuts in universities' and colleges' budgets has tightened the availability of educational opportunities. "In some cases the enrollment crisis results from prolonged under-funding in higher education. In these cases the crisis built slowly as universities gradually ran out of imaginative ways to accommodate decreasing revenues with
a stable or slowly growing student body." (Duguid, 1988). According to a study done by the Canadian Federation of Students - Pacific Region (1988) "between 1981-2 and 1987-8 the cost of living rose 44.7%, while funds allocated for operating grants to the college/institute and university system rose only 16.5%. The provincial government’s March 1988 budget did nothing to redress this with a 5% increase for universities and no increase to colleges and institutes." (See Appendix II for Tables). In order to make ends meet, "Simon Fraser University has placed restrictions on graduate admissions, the University of British Columbia has proposed a drastic curtailment of undergraduate admissions, the community colleges are at a capacity .... " (Duguid, 1988).

Demographic trends for post-secondary students reveal a change in their age grouping. "The primary and traditional age cohort (18-24) for post-secondary students will drop in B.C. by 17% from the 1982 peak to a low point in 1996, and return gradually to the 1982 peak numbers by about 2004. Grade 12 enrollment will bottom out in 1990-91 and will then grow gradually. Grade 12 graduation rates have decline from a high of about 80% to a current 70% and it is predicted that they will remain at this lower level." (Ministry of Advanced Education report, 1988). On the other hand, the demand for post-secondary education is increasing also because older individuals are seeking avenues for further education. These adult students have two characteristics different from the traditional undergraduate:

1. they need to continue working as they pursue further studies, and
2. they may not have the prerequisites required for regular admission.

Universities in B.C. have attempted to address the growth in the part-time, adult student population by providing avenues for "open" admission, and more distance courses and extension programs.
Government Initiatives in Distance Education

British Columbia was one of the first provinces to attempt to provide education to its remote populations. Possibly because of its vast and geographically diverse character, "the province has been particularly innovative in its commitment to providing equitable educational opportunities for all residents." (Ruggles, 1982, p.15).

Based on a request from a lighthouse keeper for his children, correspondence education at the elementary level was initiated in 1919, and was expanded to include secondary education in 1929. The provincial government encouraged distance education endeavours. John MacDonald's report of 1962, "Higher Education in B.C. And a Plan for the Future", emphasised the need for diversification of opportunity in higher education, and recommended the setting up of various colleges including regional colleges to meet this need.

Alongwith measures to expand the reach of educational opportunities, the provincial government also put in place communication technology hardware facilities to aid the spread of education. An Audio-Visual Services Branch existed in the 1970s to provide schools and colleges with audio-visual materials. This Branch also entered into "arrangements with the CBC for co-production of educational radio and television broadcasts ...." During 1972-73, "more than 300 programs were carried on CBC networks during school hours".(B.C. Dept. of Education Annual Report, 1972-73, p. E27).

During that year the Provincial Educational Media Centre was created. It was administered by the Audio Visual Services Branch under the guidance of a representative Department of Education committee and is "capable of producing film, television, and other media forms to meet specific educational needs." At the time of its beginning, it consisted
of a three-camera monochrome studio, a mobile television unit, associated film and sound facilities, and a duplication centre." These production facilities were put in place to facilitate the production of programs for use in public schools. The PEMC was also given the mandate to negotiate for rights to programs with other producers. Subsequently, the responsibilities of the Audio Visual Services Branch were taken over by the PEMC.

In 1983-84, PEMC was given approval to distribute media materials to other government ministries and to agencies outside the province, i.e., PEMC film and video productions could now be marketed to educational institutions throughout Canada and the USA. However, May 1984 saw the end of the long-standing broadcast arrangements with the CBC. With the loss of this broadcast time, the PEMC had to explore other distribution systems, including broadcasts on the Knowledge Network. It was also advised to acquire video materials to support post-secondary programs. (B.C. Ministry of Education Annual Report, 1983-84, p.44). PEMC's use of the Knowledge Network has been largely to a) advertise their programs, and b) to produce live-interactive programs. One recent example was the broadcast of three live-interactive programs produced jointly by the Ministry and the UBC Continuing Education office, title "Teaching for Thinking". (Fearon, 1989).

The PEMC continues to exist as a body under the Ministry of Education in B.C. It manages the distribution rights to materials produced in B.C., and acquires rights to materials from outside of the province for distribution (broadcast and/or duplication) within the province. As stated in the B.C. Ministry of Education Annual Report of 1986-87 (p.103), "the PEMC maintains systems for the identification, evaluation, development and acquisition of non-print learning resources in support of the K-12 and post-secondary curriculum. As well, the branch maintains distribution systems for the timely delivery of these resources to schools and post-secondary institutions."
One of the major activities of PEMC was to produce in-service teacher training programs, multi-media kits, and organise teacher workshops.

Till recently, PEMC provided assistance to educational institutions who wished to produce programs. Such assistance was in terms of loan of equipment and/or studio facilities. However, the production and dubbing facility of PEMC was privatised in December 1988. This private group consists of former employees. An agreement has been made for the provision of production facilities to the Ministry of Education for a five-year period. However, since these production facilities are no longer under the direct control of PEMC, their availability has already become scarce. (Fearon, 1989).

PEMC now functions under the Resources Branch, alongwith the Publications Branch of the Ministry; this placement of PEMC and the Publications Branch under one head has been done to facilitate the acquisition of media resources, print and non-print, in package form rather than in separate units.

Educational Telecommunications

British Columbia’s Ministry of Education was the first provincial government ministry in Canada to make a commitment for a provincewide co-operative system when it launched a program of distance education in 1976.

In 1977, when the Hermes satellite was launched and the federal government called for project proposals for its experimental use, the B.C. Ministry of Education presented a feasible plan to "explore the concept of interactive communication systems, with students at a distance able to talk with centrally-located instructors." (Ruggles, 1982).
The beginnings of educational telecommunications in British Columbia go back to 1976, when Walter Hardwick, the then Dy. Minister of Education & Science, took up the offer of the federal government to utilise capacity on the recently launched Hermes satellite. The two-month experimental project, managed by Pat Carney and operated from BCIT to experiment with using the Hermes satellite capabilities to reach a set of learning centres in the province, concluded that the technology was appropriate, and that there were positive learning outcomes in some of the centres. (Hardwick, 1989).

Much of the credit to establish the use of satellite communication for education goes to the then Minister for Education, Dr. Patrick L. McGeer. He helped overcome many of the teething problems. Walter Hardwick, then Dy. Minister of Education in B.C., requested the CRTC to make licensing (and relicensing for those already licensed) for cable companies conditional to them providing a channel for educational programming.

When the Anik B satellite was launched in 1978, to bring about the transition from experimental to operational satellite systems, the B.C. Ministry of Education decided to put in funds to become the first customer of TELESAT Canada Limited’s 12/14 GHz service. This utilisation of the satellite for educational purposes was done on a task force basis out of the Ministry of Education office. At that juncture, satellite time had to be shared with the province of Alberta and the Inuit community. Thus, B.C.’s time on the satellite was between 8 p.m. and 11 p.m.

In this Anik B satellite demonstration project, fifteen satellite receive sites in B.C. took in programming from a converted classroom in Vancouver. The majority of these receive sites were college campuses, and therefore under the control of the regional community colleges. (Reddington, 1988).
Further Government Initiatives in Distance Education

A number of reports were then commissioned to look into problems and propose solutions. Their recommendations pointed towards the establishment of a separate body to be responsible for distance education services in the province; this was probably the beginnings of the Open Learning Institute.

The William C. Winegard report, the "Report of the Commission on University Programs in Non-Metro Areas" submitted in 1976 pointed out the need for outreach programs and directed study programs for those who could not attend courses on campus. This report recommended that a multicampus university be established to serve the non-metro areas of B.C. It could begin as a separately funded division of S.F.U., charged with the responsibility of developing a comprehensive outreach program for degree credits, and playing a co-ordinating role to obtain on contract agreement, courses from U.B.C. and UVic. It also recommended that the Provincial Educational Media Centre assist this division. BCIT could be responsible for the modular courses in the technical areas. The report also recommended the establishment of a separately funded unit of community colleges to provide a core of media-assisted courses at this level.

The 1976 "Report of the Commission on Continuing and Community Education in B.C." chaired by Ron Faris recommended that every citizen have the opportunity for tuition-free educational upgrading up to Grade 12 and/or its equivalent, and that one institution be designated and funded as a basic centre for adult education curriculum development and that this be provided in non-institutional setting when appropriate.

In 1977, the "Report of the Commission on Vocational, Technical and Trade Training in B.C." chaired by Dean Goard, emphasised the need for decentralisation of training
programs to areas outside the Lower Mainland.

In the same year, the Ministry of Education created the Distance Education Planning Group chaired by Pat Carney, which produced the "Report of the Distance Education Planning Group on a Delivery System for Distance Education in B.C." This Report - emphasised the need for more distance education programs in the province - outlined a number of barriers to distance education - suggested the highest priority to community education, basic education, and vocational education - recommended the development of material for pre-employment, apprenticeship, and upgrading courses especially for those already in the workforce.

It recommended the establishment of a new institute to assume provincial responsibility for the delivery of distance education in B.C., which could establish community learning centres if local institutions could not respond to local needs, and would be empowered to enter programsharing and cost-sharing arrangements with extra-provincial agencies.

This report resulted in the creation of the Open Learning Institute.

Meanwhile, individual universities and colleges had established their own programs for outreach. These were:

U.B.C.
S.F.U.
UVic
BCIT
North Island College
Emily Carr College of Art & Design.

As part of an extended and enriched service to provincial residents, the three universities (and the above colleges) have developed distance learning programs through their divisions of continuing or part-time education.

The Open Learning Institute was established in 1978 by an order-in-council of the provincial government. Its mandate was to provide programs in:

1. adult basic education
2. career-technical-vocational subjects
3. programs leading to a first year degree in arts.

(See section on Open Learning Agency for details of OLI's development).

In 1978, the Open Learning Institute was empowered to create an educational television network. The Institute was given all encouragement as well as material obtained from the British Open University and elsewhere. However, the OLI chose to continue to rely on print and correspondence as its delivery media. (Hardwick, 1989).

Meanwhile, Walter Hardwick was able to obtain provincial government funds amounting to $1 million, which would cover the cost of equipment purchase as well as salaries for the first year of operation of an educational television authority. He held the funds till the Knowledge Network was set up.

Looking to utilize telecommunications opportunities, the provincial government created the Knowledge Network in 1980. (See section on the Knowledge Network for details of development).
At this time, the government also designated special funding for distance education for university-level programs. A Non-Metro Program Fund was created which could be accessed by the three provincial universities through the Interior Programs Committee. Thus, a high priority was placed on distance education as public policy. (Reid, 1988).

Open University Consortium of British Columbia

Even though the Open Learning Institute had been created, and the Knowledge Network put in place, distance education activities were still by and large fragmented and continued to operate under the direction of the individual universities rather than a single directed program. The creation of the Open University Consortium of B.C. through a ministerial initiative was an attempt by the provincial government to consolidate distance education efforts and provide singular direction. The lack of formal coordination hindered the accessibility to education, because each institution had its own set of restrictions regarding the number of credits to be taken from the institution granting the degree.

"In March 1984, the Minister of Universities, Science and Communications requested the formation of a committee that would, under the Chairmanship of Dr. W.C. Gibson of the Universities Council of B.C., 'draft a plan by which a student will be able to acquire a B.C. degree by distance education', through a combination of course from the three universities and the Open Learning Institute, and by taking advantage of Knowledge Network facilities." (Yerbury, 1985). The Distance Education Consortium Committee submitted its report on July 19, 1984.

The OUCBC was created not to offer degrees but to "facilitate the offering of degrees, certificates, diplomas and other university level credentials of its member institutions that are free of conventional residence requirements."
Another important function of the OUCBC was to coordinate "needs assessment procedures and program planning for the purpose of developing an annual program and budget submission for government." (Yerbury, 1985). The production of television programs by the educational institutions for broadcast on the Knowledge Network channel was funded by the OUCBC. Original production rather than program acquisition was favoured for funding purposes. The faculty or department interested in obtaining funds to develop a program would apply to the OUCBC through their respective universities/colleges. The OUCBC did not however provide the total funding of a project: institutions were encouraged to look elsewhere for funding as well.

However, the OUCBC was not universally appreciated. "Many academics at Simon Fraser University perceived the Consortium as an organisation that had suddenly subverted their institutional distance education programs. Other institutional members of the Consortium assumed that the degree of the Consortium would be the degrees of the Open Learning Institute." (Yerbury, 1985). Some of these negative opinions existed because of ignorance of the OUCBC's role; those who were aware of the role used the cooperative facilities of the OUCBC to their advantage. The OUCBC course calendar listed all courses that could be taken on a transferable basis from the educational institutions. "The creation of the Consortium has had the additional benefit of publicizing the universities' distance education activities and their programmatic strengths." (Yerbury, 1985).

Other Attempts at Cooperation in Distance Education

These attempts by the provincial government to bring cohesion to distance education activities were viewed with suspicion by many educationists. "Many people involved with the post-secondary system felt quite strongly that the establishment of a single mode distance education institution was an inappropriate answer to the undoubted problem of
providing educational opportunities for geographically or socially isolated inhabitant of the province. In many ways, the arrival on the scene of the Knowledge Network was viewed in much the same light with the additional consideration that many were confused at the apparent overlap between the stated mandates of OLI and KNOW and that of the already existing Provincial Educational Media Centre. ..... it was clear, almost from the beginning, that the situation in which apparent conflict or confusion existed would have to be resolved or at least clarified." (Mugridge, 1987).

At this time, the responsibility for education in the province was split between the Ministry of Education, responsible for the K-12 section, as well as certain postsecondary and training areas, and the Ministry of Universities, Science and Communications, responsible for university level education in the colleges and universities. In July 1985, the ministers of these two ministries attempted to remedy the distance learning situation by a series of actions. "Unable, in the absence of legislation, to establish a single board for OLI and KNOW, they adopted the ingenious expedient of establishing the "boards of common membership": the boards continue to exist as separate legal entities, each with its chairman, but both boards were composed of the same ten people. At the same time, the boards were directed to produce a plan for the establishment of an open learning authority for British Columbia which would consist of a number of components, as yet undefined, and would advance the coordination and rationalisation of open learning in the province." (Mugridge, 1987).

An Open Learning Authority Steering Committee was created with a chairman and two members of the boards of common membership. The then Chairman of the Knowledge Network, Dr. Walter Hardwick, was appointed chairman of this steering committee. This committee initiated detailed planning for establishing an open learning authority and the
drafting of legislation to accomplish it. Task forces began work on several aspects of the authority - the mission and organisation of an open college, an open university, the Knowledge Network, and an administrative arm and a development directorate. This work continued into 1986, coincident with the drafting of the necessary legislation.

However, a political upheaval in the provincial government setback the progress of this legislation. During this period, the ministry “instructed the steering committee to maintain its existing structure while proceeding as if the bill had passed into law.” (Mugridge, 1987). The principal officers of the Open Learning Authority (as it was initially labelled) were identified and appointed. Thus, when the Open Learning Agency Act was finally passed in 1988, the machinery was already in place to carry on the work of distance education in British Columbia. (See section on the Open Learning Agency for details on the setting up and management of the Agency).

BC CREOL: Another initiative towards consolidating distance education activities in the province is the creation of BC CREOL, or the British Columbia Consortium for Research in Education and Open Learning. The purpose of this consortium is to promote research in distance education, and also to organise graduate students and persons interested in careers in distance education. BC CREOL is also exploring the possibilities of collaborative arrangements with two Australian universities to exchange course materials for a graduate level program in distance education. (Neufeld, 1988).

Present Government Initiatives in Distance Education

The present provincial government of British Columbia realised the need to increase accessibility to advanced education and job training when it undertook a review in 1986-7 of the current state of participation in, and accessibility to, the various forms of advanced
education in job training. Early in 1988, the Minister of Advanced Education and Job Training established Regional Access Committees in each region as well as a Provincial Access Committee to make recommendations for action. The report of the Provincial Access Committee, titled "Access to Advanced Education and Job Training in British Columbia", was submitted in September 1988. This report focussed on major issues and recommended broad initiatives to improve accessibility and student success.

The Committee identified three reasons for greater accessibility to advanced education:

1. All areas of the province do not have equal access, and the areas outside of the Lower Mainland especially need to be provided such access.

2. In comparison with other Canadian provinces, British Columbia lags behind in participation in advanced education and job training. According to Statistics Canada figures for 1985-86, the number of bachelor's and first professional degrees awarded in B.C. was 3,070, the lowest of all provinces except for Prince Edward Island. (Nova Scotia headed the list with 6,730). (Bullen, E.J., 1988, p.4).

3. International trends indicate that participation in advanced education is expected to increase in all advanced technological societies. British Columbia needs not only to catch up with other parts of Canada but also to keep pace with increases in participation and successful completion rates currently being pursued in other parts of the world.

In terms of the cost implications, the Committee observed that additional investment will have a high pay-off value in terms of economics, social and cultural benefits. Comparing expenditures with other provinces, the Statistics Canada Tripartite Committee found that B.C. is third last in 1986-87 post-secondary
expenditures per capita, and last in provincial operating grants per $1000 of personal income.

The Provincial Access Committee therefore made a series of recommendations, in which "the provision of open learning systems in increase accessibility to educational opportunities" was underlined. The role of the Open Learning Agency in helping this process was mentioned in many of the individual recommendations. In Section VIII, devoted to the use of telecommunications technology, the Committee stated that the enhancing of accessibility depended "to a large extent on the use of telecommunication networks and other technologies .... However, (such technologies) now commonly used in other jurisdictions, have only been demonstrated on a pilot basis here in B.C. ...." Hence, the Committee recommended that " .... the Ministry of Advanced Education and Job Training collaborate with the ministry of Regional Development (Communications Programs) to ensure that the Knowledge Network programs are available to all British Columbia communities with populations of 50 or more. It is recommended that, in order to facilitate the implementation of a number of recommendations of this report, the Open Learning Agency prepare a proposal to enhance significantly our current use of telecommunications technology through the development and expansion of interactive networks".(Bullen, E. J., 1988, p.25).

The provincial government of British Columbia seems therefore officially committed to the use of telecommunications technology to improve educational opportunities in the province.
THE OPEN LEARNING AGENCY

The Open Learning Agency is the organisation created by an Act of the provincial legislature of British Columbia, to "use open learning methods to provide educational programs and services and will develop and promote open learning education." (OLA Act, Bill 58, 1987).

BACKGROUND

The creation of the Open Learning Agency was the result of an effort to consolidate the channels for extending educational opportunities to all peoples of the province. The provincial government had in the past years created various institutions to provide distance education opportunities, but all these seemed inadequate. From the mid-70s onwards, the Ministry of Education had made various efforts in this direction. The creation of regional colleges in 1975 was a bid to provide post-secondary and continuing education opportunities to residents of the various regions. Departments of Extension and Distance Education were established in BCIT in 1974, in Simon Fraser University in 1975, and the University of Victoria in 1976. The Centre for Continuing Education at the University of British Columbia was functioning since 1949. (Ruggles, 1982, p.19). The universities subsequently formed a consortium, the Open University Consortium of British Columbia, to coordinate their off-campus program activities. (Farrell, 1988).

However, the provincial government felt that a more centralised unit was necessary. The individual universities and colleges were focussed on regular on-campus education, with distance education as just one of their goals. In an attempt to create a body responsible full-time for distance education, the Open Learning Institute was created by an order-in-council in 1978 as a provincial institute under the College and Institute Act.
The mandate of the Open Learning Institute was to provide programs in

- adult basic education
- career-technical-vocational subjects
- programs leading to a first year degree in arts.

The budget for the OLI came from two ministries. The Ministry of Education provided 55% of its budget, based on the recommendations of the three Provincial Councils: the Academic Council, the Occupational Training Council, and the Management Advisory Council. The Ministry of Universities, Science & Communications provided 45% of OLI's budget.

OLI's headquarters were set up in Richmond, and six regional advising centres were established. It developed and distributed courses in adult basic education, up to Grade 10 or Grade 12. Courses were contracted to individual writers or purchased. If the latter, a user guide was developed for its students. The bulk of the courses were delivered through print material. A few courses used the television broadcast facilities of the Knowledge Network for content support. Audio tapes were part of the package of some courses. Tutors were assigned to all students registered in courses, and the facility of toll-free phone calls to the tutor was provided to these students. An advisory service was available if students called or visited the student services division. Library facilities were provided by mail through an arrangement with the Simon Fraser University library. Students could also use the libraries of the community colleges in their respective regions. Laboratory facilities in community colleges were also available to OLI students.

The OLI had cooperative arrangements with various other educational institutions. An inter-institutional agreement with Athabasca University and Simon Fraser University to develop courses, joint research arrangements with North Island College, were some
examples.

The average age of OLI students was 34 years. Two thirds of its students were women, and 66% resided in non-metro areas. (Ruggles, 1982, p.25).

The basic ability of a distance education institution to be able to deliver its materials to geographically dispersed students is directly dependent on the availability of channels for such delivery. Its evolution was therefore directly influenced by developments in transportation and communications systems and technologies. The availability of such 'common carriers' has been the crux of the success or failure of distance education in various regions of the world. Moreover, "....if those common carrier networks are not available, it is sometimes necessary to put them in place...." (Farrell, 1988a). Educational broadcasting systems intended to meet educational objectives for both formal and informal education have been set up by various provincial and national governments. However, the establishment of an educational broadcasting system could result in the creation of a parallel system of distance education, as happened in British Columbia with the creation of the Knowledge Network in 1980.

Thus, according to Farrell & Pacey (1987), the result was "....two parallel systems, potentially complementary in nature but in many instances duplicates of each other. In British Columbia, the solution has been to merge these two systems - the Knowledge Network and the Open Learning Institute - into a new agency for the coordination and delivery of open learning in the province."

The provincial Ministry of Advanced Education and Job Training introduced as Bill 58 in the first session of the thirty-fourth parliament of the legislative assembly, a proposal to pass an Open Learning Agency Act. Under this Act, the Open Learning
Agency was established as a corporation to be managed by a board consisting of 11 members appointed by the Lieutenant Governor in Council from among persons nominated by the minister. (OLA Act, 1988).

The legislation identifies five purposes for the OLA:

1. To coordinate the development of open learning in the province. This is accomplished through system-based planning councils with representation from public and private sector educators and the community which identify and prioritize needs and identify the appropriate institution(s) to meet the need.

2. To provide educational programs and services. In other words, to act, in collaboration with others in the system, as an educational institution. To accomplish this, the OLA is established with three program components:
   a. an Open University, to provide opportunities for university degrees,
   b. an Open College, to provide opportunities for technical, vocational, and job training,
   c. and the Knowledge Network, to provide avenues for general public education supplemented with extra study materials for those who request it.
   d. To develop and operate a credit bank.
   e. To undertake research in open learning.
   f. To operate broadcasting networks through which the educational institutions, including the program components of the OLA, can provide ready access to this broad range of educational opportunity. These networks utilize various forms of telecommunications. The responsibility rests with the Knowledge Network. (Farrell, 1988).
ORGANIZATIONAL STRUCTURE

The OLA operates "at arms length from the government" through an appointed Board of Directors. (This is similar to other post-secondary institutions in the system). The President reports to the Board. There are four Vice Presidents reporting to the President, one responsible for each of the progra components, i.e., the Open University, the Open College, and the Knowledge Network, and a Vice President, Administration. Also reporting to the President are the Director of Institutional Research and Evaluation, the Director of Communications and Corporate Relations, and the Director of International Development. Each Vice President has two or more Directors reporting to them, each responsible for specific functions within the mandate of the respective components. (Farrell, 1988).

The OLA Board meets every month, on every second friday. It prepares a Three-Year Rotating Strategic Plan which it presents to the provincial ministry for approval. Planning for the next year usually begins during June-July-August. A preliminary budget proposal is presented, after whose approval a final budget is prepared to coincide with the provincial budget statement in March. On the basis of the approved budget, the expenditure plan for the year is drawn up, approved by the Board, and implemented.

Besides the three main components, the OLA also encourages the development of systems that will enhance educational opportunities in the province. One such example is the establishment of the Discovery Training Network. It was established as a pilot project in mid-1988 DTN provides information about post-secondary education inputted onto a common mainframe that is accessible through telephone lines to computer terminals located at various points in the province.
CONCERNS

1. One of the major concerns faced by the OLA is to establish its credibility, to promote the notion that open learning works, that it is cost-effective and legitimate. There is a need to counter the view from the regular on-campus educational institutions that distance education is not of the same quality as on-campus education. There is need for a lot more research to demonstrate in "very hard terms" that OLA does better in a number of ways than a lot of the regular colleges. (Scales, 1989).

2. Completion rates for distance education courses are traditionally much lower than for regular courses. However, it has to be remembered that under the open admission policy, the variety of persons who register for distance education courses with the OLA is much wider than those who have to comply with prerequisite academic experience for regular courses.

3. One of the main problems, according to the Director of Student Services, has been the rapid growth (in terms of student enrolments) of OLA, at a time of fiscal restraint by the provincial government. As a result, there has been no money for research, and "we do not know how we are doing." (Meakin, 1989). Though a research cell has been created, a director has not been appointed to date. (May 1989).
The merging of the Open Learning Institute with the Knowledge Network has been seen as a positive move by both the Open College and the Open University.

According to Mark Nielsen, Director of Instructional Development at the Open College, the former direction of the Agency was quite complacent ..., now, it is interested in being at the cutting edge of technology and exploiting and utilizing the latest technology. (Nielsen, 1989).

THE OPEN UNIVERSITY

The Open University has been set up as the university wing of the Open Learning Agency. It describes itself in its 1988-89 Calendar as "a British Columbia public university which develops and acquires courses for delivery using open learning methods. It offers programs of study that lead to university degrees and other qualifications."

The Open University offers about 50-60 different credit-level courses in the Administrative and Social Sciences, and about 80 courses in the Humanities and Sciences. It is empowered to grant degrees in
- Bachelor of Arts in Administrative Studies,
- Bachelor of Arts in General Studies,
- Bachelor of Arts, General Program,
- Bachelor of Arts, Major program,
- Bachelor of Arts, (General Science), and
- Open University Science Degree Programs.

The Open University also provides distance students with the opportunity of taking courses from the three provincial universities. Students can enrol through the Open University in courses presented by "all participating institutions", i.e., universities and
colleges in B.C. Students may be granted credit towards an Open University degree for university level studies carried out in other institutions. Students enrolled in courses offered by these other institutions are treated as students of those institutions and are subject to the respective rules and regulations, but the credit they receive is awarded by the Open University. (O.U. Calendar, 1988-89, p.92). Presently, there are about 78,000 course registrations for the Open University.

In consonance with its 'open learning' policy, there are no prior educational requirements for students seeking admission. "Almost anyone over 18 is eligible." However, "For some courses, there are prerequisites and if you don't have the recommended preparation, you may not be allowed to enrol." (O.U. Calendar 88-89, p.3).

The Open University has an appointed Advisory Council (somewhat similar to the Senate of a regular university) which determines its policy. (Thompson, 1988).

One of the differences from a regular university is that the Open University does not have any teaching faculty. "It has a body of tutor, many of whom are Ph.D.s, and are under contract with us. "Senior tutors may come close to resembling university faculty .... senior tutors are in charge of one subject area." (Thompson, 1988).

In terms of the media channels used to deliver its courses, the O.U. Calendar lists the assignation of each student to a tutor who is accessible through tollfree telephone lines during designated office hours, and a course package which could contain
- a course manual
- course units (each representing a one-week or two-week block of study, present the course overview, plus analysis and opinions on the subject, directs reading and studying and provides study questions and practice exercises)
textbooks and assigned reading

- "also may include studio cassettes, lab kits, slides, colour
photographs, even video tapes and software. For some courses, support programs are
broadcast on the Knowledge Network television or on radio. Some courses have scheduled
labs or classes."

The decision to use supporting media is determined largely on the availability of the
material as well as the budget. Another reason for using other media for a course could
be that Open University feels it could "do something with media at this stage" (Thompson,
1988) and there is a possibility of marketing the course. Though there are no fixed
budgets for the development of a course, costs of production (for the various media) are
fairly standard. Producing a half-hour video would cost five times the production cost of a
half-hour audio tape, for example, hence these costs have to considered in terms of
whether a course warrants such media or not. "Most of such discussion is experimental
and pragmatic". (Thompson, 1988).

The Open University has had a tendency to rely on print-based material in
preference to other media for the delivery of its courses. "What we should have done
better is to look more thoroughly at media availability, but we have tended to fall into a
formula" (of using printed materials). (Bottomley, 1989). At present, media is a
supplement rather than the carrier of the core content. Over half of the Humanities and
Sciences courses have an input of non-print media, but this input is very small. "There is
a legitimate demand for non-print media. For instructional designs reasons, media could
provide variety and pacing for the lessons. The growing access to media is another factor.
A survey done a year ago found that 90% of O.U.'s students had access to video
recorders. Though all these students may not actually own a VCR, the possibility of
renting a machine is a growing reality.
USE OF TELEVISION

Courses produced and administered by the Open University which include television program support are:

Computer Science 101 The New Literacy: Introduction to Data Processing
Fine Arts 100 Contemporary Art in Canada I
Fine Arts 101 Contemporary Art in Canada II
Fine Arts 110 Colour: An Introduction
Fine Arts 120 Drawing and 2-Dimensional Systems
History 410 Conflict & Stability in the Development of Modern Europe
Humanities 400 The Religious Quest
Humanities 416 The Arts in the Enlightenment
Humanities 420 Greece 478-336 B.C.
Mathematics 110 Introduction to Calculus I
Mathematics 111 Introduction to Calculus II
Physics 110 Introduction to Physics I
Physics 111 Introduction to Physics II
Social Sciences 480 Time's Harvest: Exploring the Future

Open University courses which do not use television programs are: Administration (6 courses), Anthropology (2 courses), Astronomy (one course has video tapes Project Universe), Biological Sciences (9 courses), Business Management (2 courses), Chemistry (4 courses), Economics (5 courses), English (11 courses), Geography (7 courses), History (8 courses), Humanities (one course), Mathematics (6 courses), Philosophy (one course), Physics (2 courses), Political Science (2 courses), Psychology (9 courses), Sociology (8 courses), and Social Sciences (one course). Thus, out of 99 courses offered by the Open University, 14
(14%) have television support.

(However, it could be noted that the Open University also lists many of the courses offered by other universities and colleges in the province with which it has credit transfer arrangements; and many of these courses have television support and other media input).

The OLA is considering the possibility of using off-hours of the Knowledge Network's broadcasting day to download programs for taping. (As is done by Access Alberta). This is an easy way of distributing video programs, since the programs are aired in whole blocks, making it simple for the recorder to tape a complete series at one time. However, the Network/OLA has to obtain duplication rights for its viewers before students can be officially allowed to tape programs. (Many students tape off the air regardless of the copyright permission, but OLA has no control over such taping; as long it does not officially state that students should tape a program which does not have duplication rights, the responsibility does not rest with it). (Bottomley, 1989).

At present, the Open University is developing organic chemistry courses in which the essential content will be on audio and non-broadcast video tapes. The necessity of depicting the three-dimensional aspects of molecular structures makes visual portrayal almost essential. (Bottomley, 1989). This courses will be offered during the 1989 Fall semester.

THE OPEN COLLEGE

The Open College provides distance students with opportunities for career-technical-vocational training, upgrading of skills, and adult basic education.

The Open College has identified three markets for its courses. These are:

1. Individual students. 2. Colleges, Institutes and School Districts which are provided with course materials and consulting services and help them set up their learning centres. 3. Employers who would like to offer in-house training facilities to their employees.
THE USE OF TELEVISION

The Open College has a number of telecourses that are broadcast on the Knowledge Network, and/or are available on video tape. It is a policy to make the video tape of a telecourse available to students, who have to rent these tapes from the College if they wish to. For such telecourses, these programs form the key content of the course, and the print materials serve as support. (Nielsen, 1989). The Knowledge Network can technically reach into 98% of the homes in the province. However, because of the nature of Open College students, who are working during the day, it is difficult to reach them through broadcast television. Problems like competition from commercial stations and conflicting family viewing preferences make viewing telecourses for the distance student difficult. Hence, "what we do is to use the Network as a hook, to promote the fact that there are opportunities for open learning, so that viewers who flip through channels may get the message." (Scales, 1989). Open College students are less committed to learning (than Open University students) and hence will be less motivated to view an educational program.

Courses of the Open College which include a television component are:

Biological Sciences 023 General Biology
Biological Sciences 030 Human Biology I
Social Studies 010 A Study of Canada (video only)
Business Management 151 Introduction to Marketing (video also)
Computers 101 The New Literacy: Introduction to Data Processing (video also)
Computers 110 Computer Concepts
Computers 212 Data Base Concepts
Computers 213 The User's Role in System Development
Computers 214 Computing Tools for Management
Restaurant Management 002 Foodsafe, Advanced Program (video only)
Office Administration 104 Automating the Office (video also)
Thus, out of the 124 courses offered by the Open College, only 15 (12%) have some element of television/video support.
BACKGROUND & ORGANIZATIONAL STRUCTURE

Distance education activities began at UBC, as at most other educational institutions, as correspondence studies for credit under the Centre for Continuing Education which was established in 1949. The Guided Independent Study division administered the off-campus courses. By 1977, this division was offering 40 arts courses, two education courses, and one non-credit learning skills program. (Ruggles, 1982). In 1987-88, 72 courses were offered with a registration of 1,667, representing a 21% increase over 1986-87. More than 80% of the students registered completed their courses. Ten new courses were developed. (UBC paper ITWF 88/11/15).

At present, distance education at UBC "is a partnership between faculties and departments responsible for academic programs and course content, the Guided Independent Study division, and other service departments including Media Services, the UBC library, the Registrar's Office, and the Bookstore. Activities are coordinated, planned and budgeted through monthly meetings of the Coordinating Committee for Distance Education (CCDE) which reports to the Associate Vice President, Academic." (UBC paper ITWF 88/11/15). All distance education activities are grouped under the term UBC Access. (See diagram UBC Access).

Guided Independent Study is the central service department responsible for the design, production, and delivery of off-campus credit courses, except for those of the Faculty of Education, which handles courses in Education through its own Distance Education Office. The Guided Independent Study division receives some funding from the University as an operating budget. (apart from funds to departments for the development
Distance education courses are written by UBC faculty who are contracted for specific projects and are assisted by Guided Independent Study course designers/editors/producers. In addition to the print materials and tutor support, media components may include audio teleconferences, audio and/or video cassettes, and Knowledge Network broadcasts.

**Funding** includes student fee revenue, a grant from the Ministry of Advanced Education and Job Training, and some University operating budget support. The application for funding from the Ministry of Advanced Education and Job Training is made through the CCDE and the Open Learning Agency Open University Planning Council.

Distance students are admitted through the regular process of the University and then register with the distance course of their department. The ages and backgrounds of distance students vary widely.

Distance students are recognised as being self-motivated and having a variety of personal and professional goals. (Strangway, 1988).

The services of an Extension Library are available to distance education students.

The Faculty of Education has its own Distance Education Office whose mission is "to improve the quality of education in British Columbia Schools through the provision of in-service education for practising teachers throughout the province both in the form of credit offerings and non-credit activities." (Neufeld, 1988a).
THE USE OF TELEVISION

The professional distance courses use television to a fairly high degree for their delivery, particularly the courses in Nursing and Education. The decision to use television has largely been based on circumstance rather than the fact that the content of a course lends itself to the television format. The creation of the Knowledge Network in 1980 caused a major change in the outlook of the Guided Independent Study program at UBC; "a lot of money was put into education, and some of it went into programs here." (Bullen, M., 1988).

The Nursing program was started around the same time as the Network came into being, and this helped to get many Nursing courses on television since at that time money was available for this purpose. Nursing courses usually have at least six television programs, and one course has as many as 24 programs through a period of one year. However, these programs are a very small part of the total content; the basic content of these courses continues to be delivered by print. Accessibility to distance courses for all students is treated as a serious issue, according to Alison Rice, course co-author for Nursing 303. (Rice, 1989). For this reason, with the rapidly growing availability of television/video programs to nurses, this department is in the process of providing all their distance courses in video format.

Annually, approximately 8 courses in Education include a broadcast television component. Ideally, one course per diploma program, or specific "spotlight" programs within a course, use television as a support medium. (Neufeld, 1988a). The aim is to provide the
introductory course in each area on broadcast television. Programs meant for broadcast emphasise documentary material from classroom settings. This method of production is expensive, requiring on-location taping and subsequent editing. Students tend to record the broadcast programs on video tape and study them at their own convenience.

The Agricultural Sciences use television programs in one or two of their courses. They would like to use more television programming, but they are restricted by the availability of adequate funds for production. They would like to be able to produce documentaries rather than studio-based programs, and since outdoor productions are more expensive, they have a smaller number of programs than Nursing and Education whose programs are largely studio-based or indoor (in the classroom or hospital) productions.

UBC Media Services has its own production facilities for television programs. Most of the programs for UBC distance courses are produced by Media Services. The studio is fully equipped for broadcast quality production. There are three studio cameras and three cameras for field production. Facilities for VHS production are also available. Audio conferencing equipment and space are available on request from faculty. (See Appendix V for list of UBC Media Services Television and Audio Production equipment and rates).

Very occasionally, programs are acquired from outside, but this is more the exception than the rule. The course writer for a course will write the script which is more a detailed description of the content than a regular production script. The producer will work this document into a program script. The Coordinator of the Guided Independent Study division is usually the producer of the television programs. Sometimes, freelance producers are hired for the purpose.
Initially, (a couple of years ago), it was thought that live-interactive broadcasts were the best way to get distance students to interact, and many of the programs were in this format. Though the Media Services studio is linked to the Knowledge Network studio for the purpose of doing a live broadcast, since the Network studio is "next door", i.e., located on the UBC campus, it is easier for such productions to be done in the Network's studio itself. After several years of using the live interactive format, it was found that this was not always the best method, and hence now (1988) most of the programs are pre-recorded. (Bullen, M., 1988). However, another reason given for the reduction in live interactive programming is the lack of airtime, and this "is a pity, it would be desirable." (Neufeld, 1988). Opportunities for interactivity between students and instructors is provided through audio conferences held immediately after a television broadcast, or later.

A television program usually combines studio and outdoor locations. The Nursing programs are usually studio-based, with some footage from off-campus locations, particularly in hospitals. Some of them, like Nursing 302 The Process of Nursing Program # 6 Conceptual Models, used the studio interview format with a hostinterviewer and two consecutive guest experts. Of the two programs for Nursing 303, one was studio-based with interviews with guest experts, and the other consisted of interviews with families in their homes. The main difficulty faced in the production was to get the families to agree to participate in the programs, since actual cases were used (rather than actors). These two programs were produced over the period of a year, beginning with the scripting and shooting in Spring-Summer of 1987. The course was offered to students in 1988.

The Education footage tends to be shot in classrooms, since they need to show teaching activities and classroom situations. Some programs may show particular types of classrooms, like the programs on Computers in Education, in which in Program # 5
Administration. shots of a classroom of school students using computers are interspersed with shots of the host-instructor seated at a microcomputer. Segments with guest experts have been edited into this program. There are some programs which are videotaped lectures, which are "talking heads", with professors' lectures taped in the Media Services studio.

The programs for the Forestry, Animal Science and Agricultural Sciences departments use more location shots, in attempts to illustrate the subject.

For example, the Forestry course 111 Dendrology has a series of half-hour programs which uses location shots and close-ups of specimens of leaves and flowers, some of which may be hand-held for better focus while shooting. Stills of pictures and other graphics like diagrams, and the host-instructor lecturing in the studio, are edited into the location shots. The character generator is used to provide the names of specimens and often supered over shots of the relevant specimens.

In a program for the telecourse series for Agriculture 110, Food Production Systems, the program begins with the host-instructor seated in the studio. Location shots of dairy processing plants and laboratories are interspersed with interviews with dairy plant officials (Plant Superintendent, Ice Cream Products Manager) and graphics and diagrams to provide interest to statistical information.

Program #1 Reproductive systems for the course Agricultural Science 258 is shot on location at a farm and the veterinary hospital. The actual organs of the animal are used for display and dissection on camera. The character generator has been used to label the various parts as shown on camera. On one occasion, the camera focusses on an open page in the textbook to illustrate diagrammatic data.
Media Services is equipped with an audio studio for sound editing. Postproduction editing of the video input is also done in the editing suite at Media Services. The master tape is produced on 1", from which VHS copies are produced if the program is going to be distributed on tape.

There is an attempt to market the programs produced at UBC. But this has not been particularly successful. Universities and colleges usually develop their own course content, and "nobody seems to be willing to accept another's course materials and content". (Bullen, M., 1988). For example, both UBC and the University of Victoria have Nursing courses, but each is run on different philosophies. In the first few years of television delivery of distance courses, UBC co-developed a Nursing program with the University of Victoria. However, while the television programs were the same, the two universities could not agree on the content of the course, and after two years the collaboration came to an end.

Courses which include television programs on the Knowledge Network are:

- Agricultural Science 110 Introduction to Food Production Systems
- Animal Sciences 258 Introduction to Animal Production Systems
- Animal Sciences 480 Intensive Fish Production
- Food Sciences 258 Exploring Man's Food
- Soil Sciences 200 An Introduction to the Study of Soils
- Nursing 302 The Process of Nursing
- Nursing 303 Family Nursing Care
- Nursing 405 Professional Issues II
- Nursing 406 Management of Nursing Care
- Nursing 426 Health Care and Epidemiology
The professors who produce television programs usually use the programs for screening in the classroom, if they are teaching the similar course on campus. Though they are not experienced with the technicalities of production, they find that studio taping of programs is relatively easy. Location shooting poses some problems, especially that of making prior arrangements with the concerned officials at the respective locations - hospitals, laboratories, and individual farms and homes. (Rice 1989, Palmer 1989).

CONCERNS

Except for routine problems like getting the materials ready in time for a course and getting assignments back from students, there are no major problems, according to Bullen, Project Coordinator of the Guided Independent Study division. (Bullen, M., 1988).

There is a concern among the professors about the credibility of distance education in the regular academic community. Ron Neufeld, Director of the Office of Distance Education of the Faculty of Education, and Leroi Daniels, Director of Curriculum & Instructional Studies in the same faculty, both express concern that the university authorities do not accord adequate importance to distance education and its formal study. (Neufeld, 1988).
DEVELOPMENT & STRUCTURE

The SFU Centre for Continuing Studies was established in 1975 to provide credit and non-credit course opportunities to students who wished to study outside of the regular on-campus classroom environment. The DISC, or Directed Independent Study Courses Program began with five courses to 55 distance students. In 1988, over 7,000 students enrolled in distance education courses. (DISC Calendar, 1989).

Part-time enrollment at SFU has grown from 29% in 1974 to 50% in 1980. The fact that SFU has limited residential space makes it to some degree a "commuter university".....it is convenient for students to maintain their pre-enrollment ties to employment. (Duguid, 1988).

The production and administration of telecommunications programs to support the DISC courses is under the Coordinator of Educational Telecommunications Projects, who functions under the Faculty of Continuing Studies. The coordinator is responsible for coordinating the acquisition and production of television and video programs for the various departments who submit successful proposals for such support materials. She also liaises with the Knowledge Network for scheduling the broadcast of these programs, and puts out the semester-wise schedule of broadcasts. (Persons, 1988).

The Winegar Report on University Programs in Non-Metro Areas, submitted in 1976 as an attempt to provide consolidated educational services to remote areas, recommended that a multicampus university begin as a separately funded division of SFU, responsible for the development of a comprehensive outreach program for degree credits and acting as coordinator for obtaining courses on contract from UBC and UVic. This points to the fact
that the SFU was in a position to provide province-wide direction to distance education.

The Centre for Distance Education comes under the Office of Continuing Studies. Its budget is separate from that of the University, unlike the other regular departments. The provincial Ministry of Advanced Education and Job Training funds the B.C. Open University Planning Council, which allocated funds to the "Partners in Open Learning". (These "Partners" are the various distance education institutions in the province, including the Centre for Distance Education at SFU). The funds currently amount to $2.76 million for the three provincial universities.

The policy of the Centre is largely decided by its Director, who is responsible for program proposal development, and who reports to the Dean of Continuing Studies and the Academic Vice President of SFU. There are four Course Directors, who are assigned various subject areas. These course directors are responsible for the overall development and administration of the courses in their areas.

Students are admitted through the regular admission process of the University, and once accepted they can register with the Centre for a DISC program. Enrolments have been growing by 25% every year, though in 1988 there was a levelling off. There is the facility for individuals to apply under the 'mature student' category, and such applications undergo scrutiny by the University's Admissions Board.

The DISC Program operates on the same schedule as the rest of the University. Courses last 16 weeks, and include a two-week examination period. The retention rate for students is about 94 percent. (Yerbury, 1985).

The Services of an External Librarian are available to students. This librarian will search for materials and send them out to students. Books or photocopies of journal
THE USE OF TELEVISION

Based on a decision taken by the Consultative Committee in 1980, the University made a commitment to the provincial government to use funding to produce television programs to support credit courses. A Coordinator of Educational Telecommunications Projects was appointed, and the University invited its faculty to present proposals for program production. Arrangements were made with the Provincial Educational Media Centre to use their equipment, in return for rights to the distribution of SFU-produced programs in B.C. (Landsburg, 1989).

SFU "does not use television as much as some of the other universities .... we tend to use television more as support rather than as getting the basic course contact ...." (Sturrock, 1988). Moreover, cost of production is a factor - Thus, for example, though Criminology is visually interesting and has used television programs " .... a lot, .... we have not offered a whole course (on television) because that would be very expensive." (Faith, 1988).

The Centre's utilization of the Knowledge Network is explained by Sturrock & Yerbury, professors at the Centre, in an article published in 1982. At that time, the Network's broadcast was not available throughout the province; moreover, it was not available on the main cable channels between 2 and 13, and a converter was required to be fitted onto the television set in order to get the signal. Sturrock & Yerbury argued that "....students are encouraged to value their freedom to organize their own study time; the regular schedules of broadcasting necessarily curtail this freedom considerably...."
Moreover, doubts have been expressed about the effectiveness of teaching through television, a medium that, after all, is largely associated with leisure and escapist entertainment. However, because of the importance of providing "a variety of modes of learning", and as the Network ".... had access to such excellent series as Nova and others ...." it was decided that the DISC program should use the Network, but "initially at least as a means of offering support materials only."

In the Spring of 1982, DISC students were advised that programs relevant to their courses would be offered on the Network. To begin with, six courses offered television support. For example, one Education course on Cultural Difference used 12 National Film Board films to widen students' perspectives of interactions in multicultural situations. Some of the Criminology courses used television programs as support material, and a film depicting an author talking about her life and work was used for an introductory fiction course.

As listed in the 1989 course Calendar, the following DISC courses are supported by television programs:

**Archaeology 101-3 Introduction to Archaeology** (Only DISC course offered)

**Communications 130-3 Explorations in Mass Communication** (Out of 5 DISC courses offered)

Criminology 101-3 Introduction to Criminology

Criminology 131-3 Introduction to the Criminal Justice System

Criminology 135-3 Introduction to Canadian Law & Legal Institutions

Criminology 230-3 Criminal Law

Criminology 241-3 Introductions to Corrections

Criminology 311-3 Minorities and the Criminal Justice System
Criminology 330-3 Criminal Procedure and Evidence
Criminology 335-3 Human Rights and Civil Liberties
(Out of 19 DISC courses offered in Criminology)
Education 240-3 Social Issues in Education
Education 422-4 Learning Disabilities
Education 441-4 Cultural Differences and Education
Education 464-4 Early Childhood Education
Education 465-4 Children's Literature
(Out of 14 DISC courses offered in Education)
Geography 317-3 Soil Geography
Geography 469-4 The Canadian North and Middle North
(Out of 3 DISC courses offered in Geography)
History 338-3 World War II
History 484-3 History of Women in North America
(Out of 3 DISC courses offered in History)
Kinesiology 100-3 Introduction to Human Structure and Function
Kinesiology 110-3 Current Topics in Human Nutrition
Kinesiology 141-3 Introduction to Sport Science
Kinesiology 142-3 Introduction to Kinesiology
Kinesiology 220-3 Human Foods and Nutrition
Kinesiology 320-3 Cultural Aspects of Human Movement
Kinesiology 325-3 Basic Human Anatomy
(Out of 12 DISC courses offered in Kinesiology)
Statistics 101-3 Introduction to Statistics A
Statistics 102-3 Introduction to Statistics B

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(Out of 4 courses offered in Mathematics and Statistics)

Political Science 151-3 The Administration of Justice (Only DISC course offered)
Psychology 351-3 Child Psychology (Out of 6 DISC courses offered)
Sociology & Anthropology 201-4 Anthropology of Modern Life (Out of 12 DISC courses offered)
Women's Studies 100-4 Perspectives on Women (Only DISC course offered)

Subject areas which offered DISC courses but did not have any television program component were, Computing Science: 5 courses, English: 5 courses, French: one course, Gerontology: one course, Linguistics: one course, and Philosophy: one course.

Thus, out of 95 DISC courses offered by Simon Fraser University, 32 (33.6%) are supported by programs on the Knowledge Network.

SFU's programming has grown steadily. Current levels (1988) are 347 hours of television annually divided between credit and non-credit programming. The degree of support provided by television programs varies. Some are supplemental to courses, other provide professional development for teachers, yet others are TV series around which a course has been structured. (George, Landsbury, Sturrock & Yerbury, 1989). An example of a supplemental program series is the one on Communication in Canada which provides supplementary support to a course of the same title. An example of a program around which a course has been structured is "The World at War", which forms the basis for the History course on World War II, augmented by a print package and supplementary print material. In the production of telecourses, responsibilities are usually shared between the University and the selected producer. In the case of the series perspectives on Women, SFU faculty wrote the course and provided scripts, guests and direction, as well as overall coordination by the Coordinator of Educational Telecommunications Projects at SFU, while
the Knowledge Network undertook technical direction and production services. For other telecourses, freelance producers are hired by the concerned faculty on behalf of the university, as was done for the programs on Communications in Canada.

**Feedback on telecourses:** Evaluation forms are sent to all distance education students enrolled in courses with television support. Besides the regular feedback forms of the DISC Program. "Feedback data have, so far, merely served to confirm the impression that we cannot rely on the Network as a means of communicating basic distance education courses content; comparatively few students have had access to the support materials broadcast over the Network. .... Nevertheless, those students who have watched the relevant programs felt that their course work has on the whole profitted. Moreover, it is clear that there is a growing number of the public who are acquiring access to the Network channel as a result of favourable publicity." (Sturrock & Yerbury, 1982).

Students in the credit courses World War II and Perspectives on Women, "though their reports of their learning habits suggested a strong dependence on print, mentioned the value of the actualization given by the television component, for instance in enlarging their understanding of the experience of wartime conditions of soldiers, refugees, concentration camp victims, and so on, or in perceiving gender behaviours and reactions. They also mentioned the value of actually seeing the professors. This helped supply the individual and personal element, the lack of which can be a major problem for distance learners. Further advantages were pointed out in evaluations of a Children's Literature course .... TV in this course provided contrasting viewpoints on the subject, and also demonstrated the storytelling skills taught by the course in action." (George et al, 1989).

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OTHER DISTANCE EDUCATION PROGRAMS IN B.C.

Besides the programs at UBC and SFU, the other institutions which had/have programs were/are:

1. British Columbia Institute of Technology (BCIT)
2. Emily Carr College of Art & Design (ECCAD)
3. North Island College (NIC)
4. University of Victoria (UVic)
5. Telecollege

BCIT

BCIT was established in 1964 as one of the provincial institutes, and its Department of Distance Education was established in 1974. Distance programs are offered in the areas of forestry, business, health, and specialised engineering. The BCIT program has three centres, one each at its own campus, at Capilano College, and at SFU’s Downtown Centre. (Ruggles, 1982, p.21).

Most (97%) of the distance courses offered by BCIT are print based only, and only a few include audio tapes as support materials. Telephone counselling is available to all distance students on a 24-hour answering service. Library facilities can be accessed by mail. The use of video cassettes and a computer are available only at the BCIT campus location.

The average distance student at BCIT is 32 years old, compared to his/her on-campus counterpart whose average age is 19 years. Sixty percent of distance students are men. (Ruggles, 1982, p.21). Results of a research study in 1981 found that over 96% of students were employed, and 63% lived within commuting distance of BCIT. One-third
expressed a desire to have audio tapes included as support materials in their courses.

BCIT's premises were chosen for the location of the provincial government's initial experiments with educational telecommunications. The studios and transmitting centre for the Interactive Instructional TV Project, a two-month experiment that utilized the Anik B satellite to link this studio with participating community colleges, were set up at BCIT. Later, these studios functioned as the first production premises for the Knowledge Network when it began operation in 1980.

At the present moment, BCIT does not use much of television programming for its distance courses; if any are required, the Institute goes through the Telecollege for the purpose.

EMILY CARR COLLEGE OF ART & DESIGN

The mandate of the Emily Carr College of Art & Design (ECCAD) entrusts it with responsibility for the development of fine art and design in British Columbia. This gives it jurisdiction in all districts of the province. It thus has the responsibility of providing educational opportunities in fine arts to all peoples of the province.

Distance education courses at ECCAD are administered by the Part-Time Studies Division. This division offers year-round credit and non-credit courses in visual arts and design. The Outreach Program was created in 1978 which extended part-time study to the entire province. (ECCAD PartTime Studies Catalogue, p.2).

The College operates a Mobile Art Studio (previously known as the Printmobile) which visits ten communities in the province through the year from March through October as part of an artist-in-residence program. It offers the introductory short courses in
painting and drawing. The Studio is a 45-foot semi-trailer, fully equipped to function as a multi-purpose classroom and studio facility. The touring Studio also provides a professional development focus for teachers, and lectures by artists on their work and on portfolio preparation.

A touring exhibition, the biennial British Columbia Young Artists Exhibition, visits twenty communities and has also visited other countries.

To provide off-campus students with the opportunity of completing courses, Satellite Centres were begun in Fall 1983, in cooperation with the local regional/community college. Only two Satellite Centres offer ECCAD courses at any one time. A tutor visits the campus twice each semester and is available by telephone once a week.

To provide students with the opportunity of studying art firsthand, the College maintains a studio in Florence, Italy. An intensive three-week program is held here for students from North America.

The Use of Television

ECCAD began using the broadcasting facilities of the Knowledge Network in 1985 with its first telecourse "Contemporary Art in Canada". Of the twenty foundation courses to which provincial access has been provided, four are in the telecourse format.

Telecourses have been developed through a partnership of the College, the Open University, (formerly the Open Learning Institute,), the Knowledge Network, and the Provincial Educational Media Centre. Currently, the College is administering three telecourses: Contemporary Art in Canada, Colour: An Introduction, and Mark & Image. Two others are in the process of development.
A telecourse is delivered through the combined media of television, print, and telephone tutoring. Students registering in a telecourse receive a package of print materials, texts, and supplies. They watch a series of programs broadcast on the Knowledge Network, and do the required readings and assignments. Tutors are assigned to each course, and have specified office hours during which the students may call to discuss issues arising from the programs, readings or assignments. Credit students complete assignments, and write an examination, if applicable. Audit students receive all the materials but do not submit assignments for grading nor have access to a tutor. (ECCAD Part-Time Studies Catalogue).

Since the telecourses are foundation courses, students are usually those with a beginning interest in art studies.

Tutors for the telecourses are selected from the regular faculty of the College by the Program Director of Telecourses and are requested to tutor the particular telecourse.

Teleconferences for the telecourses have been organised for the past two semesters. (Fall 1988 and Spring 1989).

The initial decision to use the broadcasting facilities available with the Knowledge Network was taken by the then Director of Part-Time Studies, who saw in television a means of fulfilling the mandate of the College to take their courses to all parts of the province. The first telecourse to be developed and produced by the College was Contemporary Art in Canada, an elective course under Academic Studies. This series was developed around a series already being used by TV Ontario, which used programs produced by NFB, CBC, and private producers. A host from ECCAD gave a brief introduction in a wrap at the beginning of each program. Three programs were produced by ECCAD. These were:
1. Collections & Collectors, which is a program on public and private art galleries and private collectors.

2. Art Explorations, produced in a workshop format with artist Sam Black.

3. A panel discussion between three art critics.

Subsequently, a second telecourse on the subject was put together. Currently, Contemporary Art in Canada I is a telecourse of 12 programs, offered during the Fall semester, and Contemporary Art in Canada II is a telecourse of 14 programs which is offered during the Spring semester.

During the first two years that this course was offered, an Art Walk was organised for students to visit the art galleries in Vancouver. However, this was dropped in later courses as students in other parts of the province would not be able to participate in this activity.

Contemporary Art in Canada was very popular as a telecourse. It has been offered for five years now, and may be taken off the air during 1989-90. Henceforward, it will be available in video format only. The reason for this is that those individuals who were interested in this course have already taken it, and enrolments have declined considerably, to 12 students at present. (McClaren, 1989).

A course team is formed at the beginning of a production. This consists of the course writer who is a content expert from the College, an instructional designer from the Open university to advise on the design format for the print materials, and the television producer from the Knowledge Network.

The telecourse Colour: An Introduction was developed in 1986 and edited in 1987. It was a collaborative effort of the ECCAD, the Knowledge Network, which provided the
services of the program producer and subsequently aired the programs, the Open
University, which provided the services of the instructional designer, and the PEMC, which
provided the loan of technical equipment and facilities. The telecourse consists of a series
of nine half-hour programs produced in the Network’s studio with the host-instructor, Tom
Hudson, aided by graphic and pre-taped video inserts. (See section on Knowledge Network’s
Program Production for details of production). This telecourse is also offered as an
on-campus course, Colour I, in the regular schedule of the College.

Mark & Image is a telecourse consisting of 12 one-hour programs. The course covers
the same material as Drawing and Two Dimensional Languages I, a regular on-campus
course. The telecourse is based on studio activity by selected students, with the
host-instructor, Tom Hudson, providing the lecture on-camera in this studio. All programs
include computer-generated images paralleling the explorations by students in the studio
class. (See section on Knowledge Network’s Program Production for details of production).

NORTH ISLAND COLLEGE

North Island College is the only non-campus based community college in British
Columbia. It was established in 1975 as one of the 15 regional colleges set up by the
provincial government to provide post-secondary and continuing educational opportunities to
residents in the region. According to its mission statement, the College was envisioned "to
be a community-based college providing traditional clientele with traditional and
non-traditional services through non-traditional delivery systems." (NIC Courses and
Programmes, 1989-90, p.3). Its region of operation is Central and North Vancouver Island
and the adjacent mainland coast from Desolation Sound to Swindle Island.
Given a mandate to follow a dispersed services model rather than a core facilities model, the College has established 14 local learning centres with on-site tutors, laboratory equipment, and video, audio, and microcomputer facilities. It has mobile learning units, vans which are also equipped with the above facilities. Students visit the mobile unit on an appointment basis to use its facilities when the unit is in their local area. The College also has an ocean-going vessel, the Samarinda, which serves residents along the coast. (Ruggles, 1982).

The method of delivery includes "enhanced learning through the extensive use of technology such as interactive telecourses with tutorial support, videotapes, computer-assisted instruction, audiotapes, and microcomputers". (NIC Courses & Programmes 1989-90, p.4).

The College has an "open admissions" policy, i.e., anyone over the age of 18 years can enrol at any time during the year. Some 28% of the adults in the region avail themselves of the College's services. (Tayless, 1986). The average age of students is 32 years; 75% are employed fulltime, 61% are women, and 39% are men. The College has an agreement with Athabasca University to provide dual student status for the first two years of university. It also provides similar facilities through the University of Manitoba for military personnel at the Comox base. (Ruggles, 1982).

Students register for the telecourses as both credit or non-credit registrations. Very few students take the Sociology and Study Skills courses for credit; the Psychology courses have 70-80% credit registrations. The Sociology course uses Open Learning Agency print materials in its course package. The materials for the Study Skills course have been developed and written by the NIC instructor. (Albert, 1989).
The Use of Television

Television is used "extensively" for certain courses. Each year, ten interactive telecourses for credit are offered "to 2000 or more students in Western Canada via the Knowledge Network". (NIC Courses & Programmes 1989-90, p.5). The interactive telecourses are:

Psychology 211 Conception to Age 6
Psychology 212 Middle Childhood and Adolescence
English 120 Literature & Composition I
English 121 Literature & Composition II
Sociology 110 Introduction to Sociology I
Sociology 111 Introduction to Sociology II
Study Skills 095 Effective Study Techniques
Study Skills 097 Advanced Study Techniques
Parenting 099 Parenting - Birth to 6 Years
Parenting 909 Parenting Middle Childhood and Adolescence
(The interactive programs for the Parenting courses are the same as for the Psychology courses).

In addition to the interactive programs, these courses are available via videotape in NIC Learning Centres where individual playback units are placed for students' viewing convenience.

Some of the other courses also have a television component. These are:
Astronomy 100 Project Universe: An Introduction to Astronomy
French 113-114 French for Beginners: A Vous la France
Philosophy 110 & 101 From Socrates to Sartre
History 060 Twentieth Century History
SEC 182 Medical Terminology I (video tapes)
SEC 183 Medical Terminology II (video tapes)
English 099 Writing for a Reason (tele-lessons)
English 070 Better Spelling
Mathematics 070 Math for Modern Living
RSK 070 Efficient Reading
Business Management 143 Interpersonal Communications in Management
Business Management 263 Salesmanship (video tapes)
Business Management 266 Advertising (video tapes)
Computers 085 An Introduction to Computers
Computers 190 Computers and Information Processing
SBP 104 People Management in Small Business
SBP 100 Small Business Management
SBP 102 Marketing for Small Business
SBP 103 Small Business Finance
Drafting 050 Freehand Sketching
RNR and RNR 112 R.N. Refresher - Theory and Skills
LFS (Life decisions) 050 Voyage
Religion 099 The Long Search

The instructors for these courses are also the course authors and content experts as well as the on-camera hosts. They go to the Knowledge Network studio at UBC to produce the programs.
The script for a program usually takes six months to prepare before it is ready to go on air.

(See section on Program Production for the Knowledge Network for details).

THE UNIVERSITY OF VICTORIA

The administration of distance education courses at the University of Victoria is done by the individual departments which have such courses. A University Extension Division is in place with the responsibility for coordinating the "outreach" programs in cooperation with the faculty concerned. The first credit courses for distance students were offered in 1976. The services of an extension library are available, and materials are mailed to distance students on request. In terms of media used, the distribution is 35% print, 60% television, and 5% other media. (Ruggles, 1982).

The University of Victoria began utilizing television programs for its distance education courses as part of a concerted effort to expand the range of options available. (Zuckernick & Haughey, 1983). It recognised five general media categories for which software development was required:

1. audio - teleconferencing, cassettes, radio
2. computer - CAI mainframe, microcomputer, on-line, delayed interactive
3. television - live interactive via satellite and closed circuit microwave
4. video - broadcast television via cassette on site
5. print - on-line computer-based, mail packages, newspaper inserts

For these media, the distance education coordinators invited proposals and laid down software development procedure guidelines for this purpose.
The Schools that offer distance courses are the Schools of Education, Nursing, Child Care, Social Work, and Public Administration.

Education Program:

The Education Faculty offers a total of 73 distance courses during the academic year. Of these, the following had a television program component during Fall 1988 and Spring 1989:

ED D 342 Foundations of Reading
ED D 343 Reading and the School (Primary Education)
ED E 444 Mathematics Instruction in the Elementary School
ED B 480 Whole Language in the Elementary School
ED E 484 Diagnosis and Remediation in Mathematics
ED E 487 Education in a Small Community

Video tapes of these programs are available in public libraries in various communities. The Faculty does not lend tapes to students on an individual basis, as they have had problems with such a practice in the past. (Koczka, 1989).

Child Care Program:

Distance students were first admitted to the Child Care Program in September of 1986, as a pilot group. Data from distance course deliveries from 1982 to 1987 showed that students were of an average age of 35 years, 70% women and 30% men, over 75% had paid work experience in the field, and the majority had a college or university background. (School of Child Care folder, July 1988).
The course offered via distance education during Summer 1989 is CVC 200A, Core Concepts in Child and Youth Care: I. Course materials package contains two texts, a course workbook and study guide, videotaped demonstrations of systems concepts, scheduled individual telephone tutorials, and a small group teleconference. (Folder on Child and Youth Care 200A). Child Care 252 Fundamentals of Change in Child Care Practice includes video tape support.

Social Work Program:

The School of Social Work at the University of Victoria offers a Bachelor in Social Work through distance education. "It is a course of part-time study offered in non-metropolitan regions of the province outside the Lower Mainland and Victoria, for practising social workers and social service workers. Most courses are completed through self-study with some telephone contact, others through classroom instruction in the region." (Folder on the Distance B.S.W Program)

Currently, the Social Work Program does not utilize television for its courses. One video tape accompanies the course SW 403 General Social Work Practice.

Nursing Program:

The distance program of the School of Nursing is administered by the University Extension and Community Relations office. Several Nursing courses are offered in distance format, either through the University of Victoria or through the Open University. Further, the School of Nursing is implementing a program by which it gradually translating all its other courses into distance format. The new curriculum applies to all students admitted after January 1988. (Letter from Program Assistant, Health Sciences, to off-campus applicants).
The Nursing courses offered in distance format have a Knowledge Network component. Video cassettes of these programs are available but are supplied only to those registered students "who are unable to receive the Knowledge Network broadcasts in their area." (Page 8 of Registration Instructions for May-August 1989).

The University offered many of its Nursing courses on television. The course which is transferable to Open University and has a television component is Nursing 402, The Teaching-Learning Process in Health Care.

Some of the courses which include television programs are:

NURS 301 Theories and Concepts in Nursing
NURS 310 The Teaching-Learning Process in Health Care
NURS 330 Issues in Bio-Medical Ethics
NURS 404 Professional Issues in Nursing & Health Care
NURS 406 Health Science
NURS 410 Community Health & Nursing Theory
NURS 450 Administrative & Health Services
ANTH 312 Medical Anthropology

Public Administration Program:

The diploma course in Public Sector Management was established in 1979 to provide working professional managers of various organisations an opportunity to obtain credit at the senior undergraduate or postbaccalaureate level. Course delivery includes telecourses, workshop courses based on classroom lectures and readings, and a July Institute in Victoria. A total of 22 courses are listed in the brochure, of which 6 are to be offered during the Fall 1989 semester.
The courses under the Public Administration program which include television support are:

ADMN 310 Public Sector Applications of Microeconomic Analysis
ADMN 311 Political Analysis: Canadian Government and Politics
ADMN 312 Principles of Administration: Concepts and Processes
ADMN 421 Budgeting and Management Systems
ADMN 422 The Responsible Public Servant

The University also offers courses in Computer Sciences, of which the following have television support:

CBIS 110 Computer Concepts
CBIS 212 Data Base Concepts
CBIS 213 The User's Role in System Development
CBIS 214 Computing Tools for Management
CBIS 412 The Human Side of Information Systems
CBIS 480 Office Automation

TELECOLLEGE

The Telecollege Consortium of British Columbia was created in 1981 at the instance of certain faculty members of Vancouver Community College, who felt the need to provide a channel for the various colleges' distance education programs. It was established "to offer economies of scale to the community colleges to be able to combine program requirements for distance courses." (Reddington, 1989). Telecollege does not have any funding of its own but utilizes the respective college's funds for the programs they require to be produced and administered through Telecollege.
According to its introductory folder, "the Telecollege is made up a community colleges and school districts in B.C. It joins together institutions for the purpose of providing access to all facets of broadcast/non-broadcast educational television. Through a central office, (presently located on the premises of Vancouver Community College) Telecollege provides students and prospective students with services such as course information, registration, related study materials and assistance in planning and completing an individual course of studies. The Telecollege designs and produces educational or training resources for specific instructional needs. Foodsafe, a training program for food service workers, was developed by Telecollege."

The Telecollege coordinates broadcast schedules of its member colleges' programs with the Knowledge Network. In conjunction to broadcasts, print material support packages for the telecourses are available through the Telecollege. The community colleges can however conduct their own distance education and telecourse programs if they wish to do so independently.

The telecourses offered by the Telecollege during Summer 1989 were:

- Chinese Brush Painting
- Contemporary Health Issues
- Earth Explored
- English Literature I
- Understanding Human Behaviour
- Write Course
- English Literature II
- Introducing Biology
- Marketing
- Planning Your Retirement
- Starting A Business

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