APPENDIX

A COMPARATIVE STUDY OF TELEVISION FOR HIGHER EDUCATION IN CANADA AND INDIA

Introduction to the comparative study.

Subsequent to completion of data collection and analysis of the Indian section, based on a study of the Awareness, Motivation, Attitudes, and Knowledge Gain of the Indian Undergraduate students as target audience of the UGC's Countrywide Classroom, the researcher was awarded a doctoral research fellowship by the Shastri Indo-Canadian Institute to include in the theses a comparative study of the Educational Television (ETV) situation in Canada and India.

Accordingly, during November 1988-May 1989, data was collected in Canada, with the researcher based at the Department of Communication, Simon Fraser University, Burnaby, British Columbia.

There is no central body for the administration and programming of formal educational material on a national level in Canada, since Education is a provincial (and not a federal) responsibility. Currently, (1988 - 89) there are four major educational telecommunication networks in Canada, in the provinces of Quebec (Radio Quebec), Ontario (TVOntario), Alberta (Access Network) and British Columbia (The Knowledge Network). Each of these operates as an independent entity catering primarily to its own province.

The province of British Columbia (B.C.) has established the Open Learning Agency to administer post-secondary distance education, and Knowledge Network as the educational telecommunications network responsible for both general educational programming and curriculum-based programming.

In India, at present there is one single body responsible for television broadcasts for higher education, i.e., the University Grants Commission (UGC) and its UGC-INSAT TV project. These broadcasts are transmitted on Doordarshan’s central network service.

For comparative purpose, while the overall national situation was analysed for both countries in terms of the first objective of this study, for the subsequent objectives, it was decided to study the situation in the province of British Columbia and the working of the Knowledge Network.
RATIONALE FOR COMPARISON

A comparison of two different situations is apt for many reasons: technology is today become globally available; communication technology has enabled the instantaneous exchange of information; the need for education is recognised by all nations as paramount to progress.

The need for international cooperation in distance education efforts was emphasised by the Prime Minister of Norway when she addressed the International Council for Distance Education Conference in 1988 (Brundtland 1988, p.9):

"The revolution in information and communication technology illustrates more clearly than anything else that the world is one. I am convinced that distance education will soon experience another revolution related to the technological one in that it will, in the future, literally speaking transcend national borders. ....

"....This will mean that the political authorities will have to consider new kinds of questions and establish knowledge as a common resource for all nations to share. Of course, there will be language barriers and cultural and other problems. But we should welcome these new opportunities for greater international communication and mobility, not only for students but for institutions and for knowledge itself."

The need for an international comparison has been preceded by initiatives taken by some countries, notably Canada, in international cooperation in distance education, utilizing available communication technologies. In Canada, many examples of such initiatives are currently being implemented. In September 1987, the Francophone Summit held in Quebec announced the establishment in Canada of the International Francophone Centre for Distance Education. (DOC Canada, 1987a). Earlier that year, a distance learning project had been initiated jointly by the Quebec and Canadian Departments of Communications
using teleconferencing to upgrade management skills in Senegal and the Ivory Coast. (DOC Canada, 1987). A recognition of Canada's leading role in such international cooperation has been the establishment of the Commonwealth of Learning head quarters in Vancouver. (Commonwealth Secretariat, 1988). Certain universities have also been cooperating with other countries in distance education ventures. The University of Victoria initiated a project in 1983 with the East China Normal University to introduce Chinese scholars to current North American research methods. This University is also involved in projects with Thailand (to assist the Thai distance education institution to respond to local needs) and with Jordan (exploring possibilities of cooperative research). (Alexander, 1989). The University of Ottawa established communication links with the Bustamente Children's Hospital in Jamaica in the Caribbean for two-way participatory conferencing. (University of Ottawa, 1989). Both Athabasca University in Alberta and the Open Learning Agency of British Columbia have initiated cooperative efforts with Australian, Malaysian, and Indian distance education institutions. Thus, international sharing of distance education facilities is already in place.

A cross-cultural study between Norway and Canada has compared the work of program creators of the educational television unit of the National Norwegian Broadcasting Association and those of the Knowledge Network in Canada. (Johnsen, 1988). All the respondents in NRK and the Knowledge Network were involved in program creation, but their function in the development of the programs varied. Whereas the majority of the Norwegian respondents were television producers, the Canadian respondents represented different professions in the fields of distance education and television production. From Norway and Canada respectively 12 and 14 program creators were interviewed. There was a general agreement that television programs should not be the sole teaching aid in a distance education project; multi-media projects are preferrable. The situation of the viewer
and the one-way nature of broadcast television were cited as weak points by respondents from both countries. A majority of the respondents were however in favour of using television in distance education. The most significant finding of this study was that, despite the great geographical distance and the lack of contact between program creators of the two countries, the views and attitudes of Norwegian and Canadian program creators as to their activities were similar in many respects. Internationally shared views and practices in this particular field may to some extent explain this fact. (Johnsen, 1988).

In present times more than ever before, countries around the world are in a position to share developmental and technological information, to help each other towards progress. The world has shrunk into McLuhan's 'global village' thanks to the rapid proliferation of technology. With the present potential for interaction, it has been inevitable that patterns of progress seen to achieve goals in one part of the world are sought to be copied in other parts. In their anxiety for rapid modernization, developing countries have preferred the shortcut of importing technology to the slower process of indigenous innovation. Such spread of technology can be seen as an universalization of the same equipment to serve similar goals in different countries of the world. However, can technology developed in one part of the world serve different nations at the same optimum levels? Given similar goals of education, and similar availability of communication technology, does the utilization follow similar patterns? Let us consider some arguments for an international comparison.

Contemporary educational systems in most developing countries have been based on systems in the developed world. This is largely due to the process of colonization and conquest in the past which led to an implantation of systems from the colonizer to the colonized. This set the pattern for the one-way traffic of information and technology from developed to developing worlds. Countries colonized by the British set up educational
systems based on the British pattern, and these systems continue today in post-colonial nations. Two such post-colonial countries are Canada and India. Moreover, new methods of education successfully experimented with in the West are subsequently adapted by developing countries. And the increasing availability of communication technology for education, experimented with in varying degrees of success in the developed countries, is being adopted by third world nations.

Communication technology itself has been one of the major imports of developing countries. Broadcasting stations and computer terminals have been fairly successfully set up with the help of experts from the developed world. Thus, similar technology is available in different parts of the world. Is it being used to serve similar needs, in similar conditions?

The educational needs of countries vary one from another. But basically, there has been an overall increase in the demand of education, and democratic governments have chosen to address these needs because they see education as an essential adjunct to progress. Most countries, developed and developing, are faced with the following educational problems:

- inadequate availability of schools, trained teachers, and facilities
- growing numbers demanding education, especially those living in hitherto remote areas
- increasing need for education as a qualification for employment
- need for 'lifelong' education, i.e., throughout an individual's adult life

While communication networks have been set up, the availability of these networks for educational programming has not been easily accomplished even in developed countries. Telecommunications has given priority either to governmental and business data or to entertainment. Therefore, in both types of countries:
- governments have had to pass legislation before educational programming is aired on available networks.

- because of budgetary constraints, educational programming is not readily available.

- facilities for students' utilization of communication technology are not always available.

Nevertheless, both developing and developed countries continue to use communication technology for education. Since goals for such use are broadly similar, a comparative study could help identify what works, and what does not.

CANADA & INDIA

If we look at the situations in Canada and India, we find that these two countries have both attempted to use television facilities to aid the spread of education. Though they belong to different worlds, the two countries have certain common characteristics - vast stretches of geographical area that are as yet difficult to reach out to and communicate with, extensive farming and rural communities, a variety of ethnic groups with differing cultural backgrounds, and a common inheritance of British rule in the past. Both countries have democratic governments who profess to provide equal opportunities for all their peoples. In their bid to provide equal opportunity of information, the two countries have set up broadcasting networks, and have then attempted to use these facilities for education, particularly to those peoples who would otherwise not have access to educational resources.

Right from the 1930s, Canadian educational institutions have utilized communication media to take education to otherwise remote areas. The 'farm radio forums' established by the Antigonish movement to bring information and education to rural communities in the
mid-30s, the involvement of the National Film Board in Memorial University's Extension Service and in TEVEC in the late 1960s, the use of CCTV and videotapes in various universities, were forerunners of the federal government ruling that educational programming should be provided access on private channels. In the 1970s, various provincial governments under the guidance of their ministries of education proposed the setting up of educational telecommunications organizations to be responsible for utilizing communication technology for education. The Knowledge Network of British Columbia is one such organization.

India's first experiments with television were for educational purposes. In 1959, selected schools in Delhi began to receive school programmes on television. Subsequently, school telecasts have been given due time on television, during SITE in the mid-1970s, and continuing with school telecasts on the regional and national networks in the 1980s. For higher education on television, however, Indian adolescents had to wait till 1984. Subsequent to the submission of a report by the Task Force on Mass Communication and Educational Technology, the University Grant Commission's plan for a Countrywide Classroom materialized on August 15, 1984, when program time was made available via satellite for daily programmes targeted to college students.

Both these countries have thus embarked on ambitious programmes of utilizing communication technology for education. A comparative study would help determine the commonalities and differences in the two situations, with a view to providing a possible exchange of workable modalities.
THE RESEARCH QUESTION

While it is pertinent to consider reasons and methods of using communication for education, the goals of such utilization need to be clearly understood.

The basic goal of utilizing communication media for education has always been the replication of the regular classroom situation. This is a face-to-face situation where the teacher imparts knowledge to a group of students, who can ask questions, offer their own views, and exchange opinions during the session. The classroom teacher also usually has recourse to one or more visual aids, like a blackboard, charts, OHP, and/or slide projector, which help to graphically illustrate the lesson. Can such a situation, which provides the simultaneous presence of teacher and students and their immediate interaction, as well as visual aids, be replicated by television?

Because there have been experiments where televised lessons have compared favorably with classroom lessons in terms of student's knowledge gain, the delivery of courses via television has been introduced by some universities for some courses in many countries. Much research has been done in the '50s, '60s and '70s to compare television with other methods of instruction. The biggest fear was that machines would replace humans - that classroom teachers would lose their jobs because television programmes would take over instruction. However, studies have concluded that there is no significant difference between lectures and educational programmes. (Chu & Schramm 1967, Dubin & Taveggia, 1968, Trent & Cohen, 1973, Jamison, Suppes, & Wells, 1974). Besides, it has been repeatedly established that face-to-face instruction is much preferred, and that other methods like correspondence and tele-courses are availed of only when face-to-face teaching is not available.

A review of past studies shows that:

1. The type of medium used to teach does not affect student performance.
2. Given the option, students and teachers both prefer the traditional classroom face-to-face situation to distance education methods and media. Distance education planners have therefore always sought to replicate the classroom situation as far as possible.

3. The application of technology to educational situations is still new and not as yet standardized; therefore, each situation poses its own problems.

The question, therefore, is not whether television can replace the classroom, but rather whether it can serve as an adequate substitute in situations where students would otherwise have no opportunity for education at all. There are many types of students today who cannot, or prefer not to, avail of regular educational opportunities. This may be because:

1. there are no educational institutions in a given area
2. the particular courses that a student needs are not conveniently available
3. the student does not have the time to attend a regular institution, because of other commitments
4. the student is not able to gain admission into a regular institution

For these reasons, given the availability of communication networks already functioning - satellite and cable systems, as well as telephone and computer links - educational institutions in the developed countries continue to use these networks to expand the availability of education, and more and more developing countries turn to such communication networks to solve their educational problems as well.

Therefore, the question remains, how best can communication technology be used for education?
OBJECTIVES OF THE STUDY

As stated above, the main question is, how is communication technology utilized for education? The aim of this study is to compare the utilization of modern communication technology for educational purposes in Canada and India, with special reference to television.

The objectives of the study are to seek answers to the following questions:

1. What are the circumstances that lead a country to use technology for education? This would include an examination of:
   a. stated government policy goals of education and communication
   b. infrastructure of technology available, gaps and problem areas
   c. infrastructure of education available, gaps and problem areas

2. How is technology utilized for education? This would describe:
   a. the educational institution/s responsible for such use
   b. the communication institution/s responsible for such use
   c. the manner in which the technology is utilized

3. How successful is such utilization? This has to be determined in terms of:
   a. amount and types of technology, and the courses it is utilized for
   b. perceived usefulness of the technology is the eyes of policy makers, administrators, and actual users

4. What are the points of similarities between the two countries? Can one situation offer guidelines to the other about:
   a. formulation of policy goals
   b. appropriateness of technology for various courses, teachers, and students now and in the future
The Scope of the Study:

For the purpose of this study, 'education' refers to formal, college-level or post secondary education.

'Distance education' refers to the methods employed to make educational opportunities available to those students who cannot, or do not wish to, avail of on-campus education.

'Communication technology' refers to telecommunications technology, with emphasis on the use of television, but also looking at the use of audio and video cassettes, teleconferencing, telephone links, and computers.

'Television' refers to broadcast television, both pre-recorded and liveinteractive, video tapes and cassettes, and teleconferencing used in conjunction with or following television broadcasts.

The study considers the situation in one developed and one developing country, i.e., Canada and India.

RESEARCH METHODOLOGY

To be able to study the system as a whole in each country, this study employs a qualitative research approach.

The evaluation of distance education programmes and the use of communication technology for education has to be treated as a special field of investigation, having its own characteristics that make it quite different from traditional educational situations and
for which standard evaluation methods used for assessing the effectiveness of classroom situations are often inadequate. A brief review of some past studies of evaluation design will help clarify this.

**Brief Review of Past Studies in Research Methodology**

Ever since Wilbur Schramm began studying the impact of educational television in the 1960s, researchers have found that they have to proceed with caution when enquiring into the use of communication media for education.

Dohner, Zinser, Cullen, and Schwarz (1985) outlined some of the problems faced in assessing the effectiveness of distance teaching:

1. Since the desired outcomes of an educational experiment are rooted in societal values, it is difficult to define them precisely and often impossible to express them in measured terms.

2. Improvement (in student performance and adoption of the new technology) does not immediate occur with change. Education requires a long lead time to turn the innovation into widespread practice.

3. It is often necessary to alter the evaluation plan several times during the project in response to programming changes.

4. It is not possible to use a classic experimental design because few of the assumptions required for experimental design can be met. The number of students involved is usually very small, often only 2 or 3; there are different professors using the medium, teaching different subject matter and using different teaching techniques; the percentage of the time used for delivery by the technological medium is very small in comparison with the total time spent on the course.
Tony Bates, who has researched extensively into the educational use of media, has questioned the value of experimental methods in providing timely and relevant information for educational media decisions. (Bates, 1981). He noted that, in previous controlled laboratory experiments on this topic,

1. important variables like the quality of programme production are ignored or not recognised
2. organisational and contextual variables like class scheduling or viewing time are often ignored
3. differences between the quality of the treatment and the control conditions are not accounted for
4. individual differences in responses to tele and traditional courses are not examined.

In terms of results, past comparative studies all conclude that there is no significant difference in student performance resulting from various teaching strategies or media. (Dubin & Taveggia, 1968, Jamison, Suppes, & Wells, 1974, Trent & Cohen, 1973, etc.)

Shavelson, Webb, & Hotta (1987) put forward the concept of "exchangeability" in designing telecourse evaluations. They state that the focus of the evaluation should be on the level of knowledge attained at the end of tele and traditional courses, and not the "growth" of knowledge from pretest to posttest. According to them, the three attributes of exchangeability are:

1. telecourse treatments cannot be separated from their local implementation
2. student characteristics and self-selection into tele and traditional courses cannot be disentangled, and therefore 'randomisation' of the population is problematic
3. a balance between internal and external validity should be sought.
The weakness of quantitative methods is also emphasised by Rothe (1982), who says that the tester’s model of student competence and performance is pre-defined according to psychological theories, and forced choice items often reflect the researcher’s perspective and offer no scope for independent statements by respondents.

Given these problems in studying distance education projects, the qualitative approach to research is potentially more appropriate and more responsive for decision making about choices about future uses for and improvements in educational media. (Shavelson et al, 1987). Shavelson et al advise that a narrative account of the object of inquiry, in this case the distance education situation, would offer an inner understanding enabling the comprehension in greater depth. They also suggest that quasiexperimental designs could be used to evaluate student outcomes given the considerable constraints imposed by evaluation sites and students. Rothe (1982) also has suggested that qualitative approaches like that of ethnomethodology would be suitable to map the patterns that emerge and which could point to success or problems in the situation.

In an attempt to identify the characteristics of distance education that distinguish it from campus-based programmes, Goolner (1979) pointed to

1. the nature of the learners
2. motivations for participation
3. modes of delivery

Building from this, Goolner listed the criteria for evaluation as

1. Access to educational opportunities
2. Relevancy to needs and expectations
3. Quality of programme offerings
4. Learner outcomes
Cost-effectiveness
Impact
Generation of knowledge for a better understanding of such projects.

For this study, therefore, a holistic view of the situation has been attempted. Keeping in view the objectives of this study, the data is presented and discussed under the following heads:

1. The Canadian situation regarding educational telecommunication.
2. The utilization of educational telecommunication in British Columbia.
3. The working of the Knowledge Network.
4. The Indian situation regarding educational telecommunication.
5. Comparative Analysis and Discussion.

**DATA GATHERING TOOLS (IN CANADA)**

1. The main tool was the open-ended interview which was used to obtain information from, as well as discuss attitudes and opinions on the subject with, various groups of individuals:
   - government officials responsible for education and communication
   - heads of institutions and departments of distance education
   - content experts
   - course designers and supervisors
   - programme producers
   - tutors/instructors
   - students of distance education courses
II. There is need for information about the process of the use of communication in education over and above what can be had from the above players. Such information was collected through observation, where the researcher:

- made repeat visits to centres for distance education, production studios, etc.
- was a participant observer in the education communication organization under study - the Knowledge Network. (Feb. 13 to April 30, 1989).

III. The study also involved an examination of various documents - the government mandate, policy statements, files and records where available, information literature produced by the institutions, etc.

The Sphere of the Study:

The main focus of the Canadian research is the province of British Columbia, though information was also gathered from other Canadian institutions as and where available. The interviews and observation were conducted in British Columbia, while printed data was collected from other Canadian institutions.

Since the Knowledge Network has been given the mandate for educational telecommunications in British Columbia, it was the main organization to be studied. However, the services of the Knowledge Network are utilized by various educational institutions in the province, and therefore these institutions were also studied with special reference to their use of the Network's facilities. The institutions studied were the Open Learning Agency, the Office of Distance Education and Media Services of the University of British Columbia, and the Centre for Distance Education at Simon Fraser University. Data obtained in document form from the other distance education offices in British Columbia were included to map a picture of the situation in the province.
REFERENCES

Alexander, S.E., 1989, Memorandum to K. Seaborne, Manager, Distance Education, University of Victoria, re: Description of University of Victoria-East China National University Distance Education Research Project, March 27, 1989.


Brundtland, G.H., 1988, "Developing Distance Education" - The Broady Lecture, August 11, 1988, Oslo: International Council for Distance Education.

Department of Communications (DOC) Canada, 1987, Communique issued jointly by the Governments of Canada and Quebec, June 5, 1987, "Flora Macdonald and Richard D. French express delight in the achievements of the distance learning project involving Senegal and the Ivory Coast".

Department of Communications (DOC) Canada, 1987a, Press Release issued by the Office of the Prime Minister of Canada, October 17, 1987, "Commonwealth Endorses Canada's Proposal for a Distance Education Network".

Commonwealth Secretariat, 1988, Press Release issued on November 14, 1988, "Commonwealth of Learning Opens".


University of Ottawa, 1989, "Canadian Hospital Links with Caribbean", reprint of news item.