Shifting to the Third Generation: Open and Distance Education at a Mixed Mode Institution

by
Carolyn Nobes

thesis
submitted in partial fulfillment of the requirements for
the degree of Research Master of Arts
in the Department of Education at
Mount Saint Vincent University

1997

The author has granted a non-
exclusive licence allowing the
National Library of Canada to
reproduce, loan, distribute or sell
copies of this thesis in microform,
paper or electronic formats.

The author retains ownership of the
copyright in this thesis. Neither the
thesis nor substantial extracts from it
may be printed or otherwise
reproduced without the author's
permission.

L'auteur a accordé une licence non
exclusive permettant à la
Bibliothèque nationale du Canada de
reproduire, prêter, distribuer ou
vendre des copies de cette thèse sous
la forme de microfiche/film, de
reproduction sur papier ou sur format
électronique.

L'auteur conserve la propriété du
droit d'auteur qui protège cette thèse.
Ni la thèse ni des extraits substantiels
de celle-ci ne doivent être imprimés
ou autrement reproduits sans son
autorisation.

0-612-37832-2

Canada

Acknowledgements

In memory of my mother, Enid Louise Germain,
a loving teacher with an open mind.

C.N.

Contents

Thesis Abstract

Drawing on the example of Mount Saint Vincent University (MSVU), this thesis contends that current developments in communication technology are blurring the distinction between distance education and the traditional classroom. Using Fallow and Robinson's terminology (1995), MSVU is no longer a dual-mode institution. Rather MSVU is more accurately described as a mixed mode institution which, according to Fallow and Robinson integrates distance materials and methods with the conventional mainstream on-campus courses. This shift has great implications for university divisions, like Open Learning at MSVU, previously charged with offering education at a distance.

Open Learning has experienced several transitions which Kaufman (1989) contends are due to the evolution of three generations of distance education, which he defines as correspondence, distance, and open and distance education. Each of these generations has increased the control of the learner, increased the degree of dialogue, and depth of thinking skills. I believe at MSVU the Open Learning program has experienced a transformational or third generation shift to open and distance education due in part to recent technological developments.

My major hypothesis is that communication technologies utilized in teaching graduate adult education courses in the Open Learning Program at MSVU, are leading a changing trend in the convergence of teaching methodologies and learning theories. These innovative methodologies are influencing the way we teach and learn at MSVU and can be a model for other small universities in the future.

Chapter One

Open Learning: Separate and Distinct

Introduction

Imagine being NASA's first astronaut. It's thirty years in the past and you're in a rocket ship! Through the fog off Cape Canaveral you begin a journey into the unexplored territory of outer space. Think of the emotions of exploring places no one has before: the need to know that brought you here; the uncertainty of the unknown; the excitement of being on the leading edge. Then, we thought space was the final frontier.

Today, the rocket is communication technologies and the space is cyberspace. The fog is the confusion pervasive in higher education over new developments in communication technologies. The journey is the exploration of new territories and opportunities in higher education that were previously uncharted. The emergence of new technology has resulted in new ways of learning and the transformation of our institutions and pedagogy.

Drawing upon the example of Mount Saint Vincent University (MSVU), Halifax, Nova Scotia, I contend that current developments in the integration of communication technologies challenge the traditional distinction between distance and classroom education. Teaching and learning at both the institutional and classroom levels are experiencing a shift. Pedagogical approaches that once were used only for face-to-face communication can now be blended effectively into teaching with technology. Distance education and traditional education are now being intertwined. Contemporary higher education is encountering three trends: technological convergences, and shifts in both pedagogy and institutional approaches.

During the last ten years as an administrator of the Open Learning program, a distance education program at Mount Saint Vincent University, my thinking has changed considerably in regards to the relationship between distance and traditional education. I once viewed distance as supplemental to, and separate from, regular course offerings. Today, these distinctions are not as clear to me. Recently, I have come to appreciate how developments in communication technology are creating a revolution in higher education. These developments, I have found, blend distance and classroom teaching and learning and are reconfiguring teaching and learning in higher education (Haughey, 1996).

The literature refers to the early stages of distance education as an 'industrial model' reflecting the industrial age. The industrial age is also referred to in the literature as 'Fordism'. These broad references are briefly explained at the beginning of this chapter in order to set the stage of 'time and space' for the distance education transition occurring today. In addition, this chapter provides a brief overview of three trends taking place in contemporary distance education, and briefly describes the evolution of the Open Learning program at MSVU. It sets the stage for understanding the impact of these shifting trends on university distance programs and how some of the programs are redesigned and reshaped to meet the needs of a new type of student: the learner-consumer. Before we examine these trends, it is important to acknowledge the history of technological change and its impact on learning at a distance.

The Industrial Age

The late 19th century produced major scientific inventions and discoveries and transformed the way people worked, lived, and learned in the Western world. The building of the railroads and the harnessing of electricity in the 1850s changed perceptions of 'distance' in an unprecedented way. New mechanical and electrical 'contraptions' helped transform a primarily rural and agricultural society into one that is mostly urban and industrial. Inventions like the telegraph, telephone, moving pictures and

later, radio, mesmerized the public. Complex transportation and communication systems symbolized the modern age and changed the way citizens viewed themselves as participants in a democratic society.

According to Rifkin (1995), the modern organization, with its patent hierarchical management structure, emerged in the early 1900s. In this form of organization, vital information flowed up a pyramid structure from unskilled or semi-skilled workers to a chief executive officer at the top. Decisions, by contrast, were made at the top and sent down the hierarchy to be implemented at each level. All tasks in the organization were rigidly defined according to classical principles of scientific management first espoused by Frederick Taylor.

Mass Production and Fordism

Henry Ford perfected this modern organizational system for the automobile industry. Rifkin describes 'Fordism' as the term used to represent Henry Ford's contribution to the mass production of standard, interchangeable parts on an assembly line. Ford, and the many organizations that imitated Ford, were organized along rigid, hierarchical lines with many departments or divisions. Each level had responsibilities but absolute control remained in the hands of top management. The lower levels of the chain of command were not encouraged to make decisions in this type of linear process.

Later in the 20th century, another automobile company, Toyota, switched to a different management style called 'lean production' to compete more effectively with the American carmakers organized according to Fordist principles. Rather than a hierarchical structure that restricted the contribution and involvement of employees, Toyota adopted more cooperative organizational patterns. It valued the work experi-

ence of all employees and solved problems by using a team approach consisting of 'quality circles'.

The Computer Age

The emergence of computers required workers to participate in intellectual activities previously conducted only at the top of the pyramid. Increased competition forced a quicker response time for decisions which was not possible under the traditional hierarchical system. As a result the North American corporate markets were slow and became saturated with consumer goods, while foreign markets could respond almost instantly with cheaper imports. American companies began to re-engineer themselves to respond to the compressed time and space of the post-industrial or post-Fordism era.

Today, those that failed to keep up with this new technology are losing out in the modern economy and workplace. Companies struggling under the pressure of global competition, financial restraint, and the demands of a more powerful consumer market are rejecting the inefficiency of the linear process of thinking reflected in the industrial age. Concurrently consumers are increasingly acknowledging their personal responsibility not only to themselves and their families but also as caretakers of their communities. Technology is playing an important role in empowering the people.

This modernity has had a major impact on our universities. Institutions are required to rethink their place in society and to respond to the needs of a market-driven society divested of time and demanding of service and efficiency. The following sections will examine three trends that are impacting on the evolution of distance education: technological convergence, changes in pedagogy, and institutional shifts.

Three Trends in Distance Education

Technological Convergence

Dramatic technological advances in industry and business continue to affect Canadian society and indirectly affect higher education institutions (Rifkin, 1995). Telephone systems, television networks and more recently, entire telecommunication systems comprised of satellites, cable networks, microwave transmitters, telephone cables and fibre optics are also being integrated into a vast information network (Haughey, 1996). Cable TV and telephone companies are converging to provide high speed Internet access. One of the most publicized examples of technological convergence is the recent purchase by Microsoft chairman, Bill Gates, of 11 per cent shares in the fourth-largest cable company in the US for Internet delivery (Halifax Mail Star, p.C6). Soon there will be one-stop Internet shopping for a full range of communication, information, and entertainment services.

Technological advances like these provide previously unavailable commercial and educational opportunities. As a new global order emerges from these changes, companies are forced to restructure and de-industrialize (Menzies, 1994). The results are unemployment and underemployment (Rifkin, 1995). Concurrent with these increased results is a trend in industry to seek a new kind of worker as well as a trend in higher education to respond to a new market of mature people seeking to upgrade their qualifications and certifications (Harris, 1987).

Given technological advances in the educational field, more and more consumers are shopping for education on-line in a global marketplace (Pacey & Penny, 1995). One result is increased competition amongst higher education institutions. Another result is the emergence of alternative educational providers, for example, private institutions (Haughey, 1996) and emerging models of university consortium (Pritchard, 1995). The impact of technology cannot be ignored by any higher education

institutions, large or small, who intend to survive in a climate of fiscal restraint and increased rivalry in the marketplace.

Shifts in Pedagogy

These new technologies have also spawned new ways of thinking and learning in higher education. Traditional pedagogical approaches are evolving to meet the needs of the education marketplace. We are moving from a teacher-focused approach in education to a learner-centred approach, a movement that closely mirrors a societal shift from a traditional technical paradigm to one that is more critical and questioning. It is important to briefly consider where we have been before we can understand where we are and where we are moving to as a result of the new technologies.

Distance education, particularly correspondence education, is hinted at in literature as early as the 1720s (Holmberg, 1995). By the 1830s, correspondence education was frequently recognized in literature.

The most powerful technology employed in early distance education was the written word which, according to Walter Ong (1982), developed with the creation of tools such as the quill pen and parchment paper. Technological advances subsequently enhanced the medium of teaching and learning by correspondence. Kidd (1956) describes how railway coaches were used as travelling classrooms in the early 20th century in Canada to assist in the education of farmers in rural Saskatchewan. Welton (1996) shows how in the early 1920s, radio- a new technology at the time- played a significant role in educating farmers at home with the National Farm Radio Forum. People in the this century witnessed a proliferation of new technologies that complemented correspondence materials.

In the 20th century, correspondence courses with pre-produced course packages and opportunities for two-way communication, generally between student and teacher, increased significantly. During this period, telephones, radios, audio tapes, televisions, video tapes and computers played an increasingly important role in educa-

tion around the world. Although the potential existed for two-way communication, print, radio and television communication frequently remained one-way.

As technological advancements increased, the term 'correspondence education' needed to be expanded. In the 1970s, the term 'distance education' was slowly adopted. The term was formally recognized in 1982 when the International Council for Correspondence Education changed its name to the International Council for Distance Education (Holmberg, 1995). At the same time, the adjective 'open' crept into the literature. Holmberg (1995) credits the founding of the Open University in Britain in 1970 as the beginning of a new era. He explains that "open originally referred to access and to the avoidance of certain restrictions" (p. 4). Today the distinction between open and distance learning remains blurred as the terms are used interchangeably.

Kaufman (1989) describes this transition in distance terminology in another way. He outlines three distinct phases or generations in the evolution of distance education in course design: correspondence, distance education, and an emerging third phase — a combination of open and distance education. Kaufman's three phases are outlined in Table 1.

Table 1

Comparison of Three Generations of Course Design in Distance Education*

	Control	Dialogue	Thinking Skills
1st Generation 'Correspondence Education'	• No choice provided to learners in program • Learner has no power • Little support provided other than written feedback on assignments • Evaluation is mainly by final exam	• Low dialogue • Mainly postal service. Some telephone, some phone-in on the air to radio forum	• Little or no emphasis • Focus on coverage
2nd Generation 'Distance Education'	• Some learner choice of courses within a program • Some choice of topics or projects undertaken within a course • Learner has no power • Some pre-enrollment counselling and study skills training is available by phone as well as in writing • Some audio-teleconferences and face-to-face sessions are used • Evaluation is by assignment, projects and final exam	• Modern dialogue available at specified times • Mainly postal service • Use of telephone audio teleconferencing • Interactive television	• Some emphasis particularly in some British Open courses • Focus still on content coverage
3rd Generation 'Open Distance Education'*	• Learner choice of why, what, how, where, and when to study • Some learner choice of how their learning will be evaluated • Power is mainly in the hands of the learner • Institution and other learners provide on-going support to assist the learner in <u>becoming independent</u>	• High dialogue available • All of the above *methods*, plus computer-mediated communication	• Major emphasis throughout curriculum on problem solving, decision-making critical thinking

*Please note: the term 'open learning' has been in use recently to denote a 'learner-centered' type of system which provides a high degree of choice to the learner. The term 'open distance education' is used here to label an approach referred to as third generation course design.

Source: Post-secondary distance education in Canada. (p. 68), by R. Sweet, (Ed.), (1989). Athabasca, AB: Canadian Society for Studies in Education.

Table 1 highlights a transition from a teacher-controlled or teacher-centred focus in the first generation to a learner-centred focus in the third generation. Kaufman (p. 61) describes control "as the opportunity and ability to influence, direct, and determine decisions related to the educational process." According to Kaufman's definition, the teacher-centred focus places all the power or control in the hands of the teacher or institution, whereas the learner-centred focus empowers the learner with some choices in the learning process and content.

What is not reflected in Kaufman's table is the move from synchronous to asynchronous communication. In the first two generations, the only verbal dialogue technically available is synchronous. The dialogue could occur as a two-way communication at an agreed upon time through the use of telephones, audio-teleconferencing, and interactive television. In the third generation, asynchronous communication, neither time nor place specific, is possible through new communication modes using linked or networked computers. On-going dialogue between tutor and learner, and among learners, means ideas can be developed and reflected upon — a process not possible in the first two generations.

Institutional Shifting

The third trend in distance education occurs at the level of the educational institution. Holmberg (1995) describes university organizations as historically single-mode or dual-mode. The single-mode organizations are committed to the special purpose of providing education in a single manner. For example, these institutions offer only traditional, on-campus courses or specifically designed distance courses. Dual-mode universities are more versatile, offering education both ways. The conventional classes are held on campus while the distance classes are often conducted through extension, continuing education, or distance education departments. All these departments, however, maintain a separate and distinct identity.

Today, new modes of university education are emerging, one of which Fallow and Robinson (1995) describe as 'mixed mode'. Mixed mode is the result of the explosive growth in communication technologies and increased pressures to rationalize university programs and services. Fallow and Robinson state that the mixed mode approach is characterized by integrating distance materials and methods with the conventional, mainstream, on-campus courses. This mixed approach blends several characteristics of the dual-mode institutions.

The following section focusses on the evolution of the Open Learning distance program at Mount Saint Vincent University (MSVU) in an effort to understand how current developments in communication technology are blurring this distinction between distance education and the traditional classroom. Using Fallow and Robinson's (1995) terminology in analyzing this model, I shall suggest that MSVU is no longer a dual-mode institution but a mixed mode institution. My thesis explores this shift at MSVU from a dual mode institution to a mixed mode institution as a result of technological convergence and concludes that these technological advancements and convergences are instrumental in preparing for this shift to the third generation phase.

The Evolution of the Open Learning Program

Introduction

The Open Learning Program at Mount Saint Vincent University is redefining the way we are educating. It provides a unique form of student-faculty interaction and collaboration. Open Learning uses technology to meet the needs of un-served or under-served student populations, especially women. The Open Learning program was established on the need for tourism education and upgrading through educational program offerings.

As the coordinator of this program since its conception in 1988, I share in this thesis my personal reflections on the administrative process, course materials and

course delivery. I also share my beliefs that in these times of diminishing resources, universities, and Mount Saint Vincent University in particular, must rethink their role as institutions of higher learning. Why and how we might 'rethink' these processes for the future is a central theme of my thesis.

First, I look at the evolution of this program and the institution within which it operates. This background is sourced from the Mount Saint Vincent University Academic Calendar 1996-97 and the proceedings for two conferences of the International Council for Distance Education in 1995 and 1997 presented by myself and senior administrators. Second, I present a brief outline of the foundation of the course development and course delivery process to provide a deeper understanding of the pedagogical approach. The third portion describes the characteristics of the Open Learning students and early evaluation results from a survey on the administration of the program. Lastly, I outline profiles of some of today's learners.

Mount Saint Vincent University

Mount Saint Vincent is Canada's only university dedicated primarily to the education of women. It has a 124 year history of service and commitment to educating women, including offering outreach programs since 1920 when "off-campus, evening, and summer courses were first offered to mature female students to increase women's access to higher education" (Carl, 1990, p.109). While the Mount no longer exclusively educates women, 83% of its students are female.

The Mount offers courses in arts and science as well as selected professional programs, including a degree in Tourism and Hospitality Management. After eight years of development, the tourism degree was formally approved by the University's Senate in 1983. A compulsory cooperative education component was then approved in 1985 and, in 1986, the program was formally approved by the Maritime Provinces Higher Education Commission. Today the program remains the only one of its kind in Atlantic Canada, and serves the region on-campus as well as those of distance stu-

dents through the Open Learning Program. Organizationally, the Open Learning Program is offered through a separate division of the university reporting to the Academic Dean of Professional Studies.

Over the nine-year history of the program, there have been two different deans and three different presidents. They all supported this program but I sense a transition in the valuing of distance education during the tenure of the last two presidents. Whereas the earlier administration was pleased to see the THMT program financially strengthened, distance education was not a priority. In recent years, however, the senior administration has strongly encouraged research, development and new modes of distance learning.

In the mid-1980s, a need was identified in the Atlantic region for education and management development among staff and managers in the tourism and hospitality industry. Less than 20 percent of workers in the industry had received any training from a school, college or university which related directly to their employment. Moreover, about two-thirds of workers did not have the opportunity for formal on-the-job training. By its very nature, the tourism industry is dispersed geographically throughout the region, in many cases away from urban centers and, in some cases, in quite remote locations. As well, many individuals cannot leave their businesses to attend educational and training institutions and the time demands of their businesses also preclude them taking classes at regularly scheduled hours.

The Open Learning Program at MSVU grew out of the need to provide tourism education in this region. The tourism industry in Atlantic Canada has become an important sector of the region's economy, accounting for $2 billion in economic activity in 1994. When tourism is measured as a percentage of gross provincial product, it has been estimated that the Atlantic provinces, Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland, rank in the top five in Canada (Atlantic Provinces Economic Council, 1994). The premiers targeted tourism as a major growth area. The efficiency and effectiveness of tourism as an economic sector rests in large

measure on the quality of the people who own, operate and manage the hotels, restaurants, attractions and other services that serve the traveling public. The development of this human resource to its fullest potential is, therefore, a key component in the development of the sector. Successful individual enterprises benefit community economic development, meeting the government's policy agenda and justifying government investment in an educational program.

The obvious solution to the needs for education and training in tourism was some form of distance education defined as "all arrangements for providing instruction through print or electronic communications media to persons engaged in planned learning in a place or time different from that of the instructor" (Moore, 1990). Since Mount Saint Vincent University, in the largest provincial capital of the region, had been engaged in distance education in a formal way for several years through DUET (Distance University Education via Television), it was well placed to provide additional distance education programs. In other words, the university had a tradition of, and experience with, distance education on which to develop a program to serve the needs of the tourism industry. Mount Saint Vincent University has been perceived by the external community as a distance education provider — and thus a dual mode institution — since 1982.

Open Learning

The long-standing commitment to distance education and the development of the tourism and hospitality degree were the building blocks for the development of offerings for tourism professionals through Open Learning. Designed in 1988 as a learner-centred program, Open Learning delivered its first courses in 1992. The program's primary goal was to offer an opportunity for learners to prepare for a career in tourism or to upgrade the skills and/or credentials of those already working in the business. Funding was provided by the Atlantic Canada Opportunities Agency

(ACOA) to improve and expand the degree program, including the development of materials for part-time studies.

The Mount's Open Learning program was established "to enable people to learn at the time, place and pace which satisfies their circumstances and requirements. The emphasis is on opening up opportunities by overcoming barriers that result from geographical isolation, personal or work commitments or conventional course structures which have often prevented people from gaining access to the training they need" (MSC, 1984). Students must meet the same academic requirements as on-campus students; however, the Mount is quite flexible in terms of its approach to student admission requirements and time allotted to complete the degree. This clearly recognizes that many students have work responsibilities or locations that impose constraints on their access to university education.

The starting point for the development of Open Learning at the Mount was a review of post-secondary programs in travel, tourism and hospitality management and of other distance learning programs at colleges and universities in Canada, the USA and overseas (Amirault and Smith, 1988). Based on the experiences of other institutions, Amirault and Smith recommended that the program contain the following features:

- A multi-mode plan of study
- Encouragement of the tourism industry to sponsor and/or release learners full-time during the low tourism season
- Primarily print-based packages supplemented with audio- or videotapes
- Scheduled audio-teleconferencing with the tutor
- Purchase, rather than development, of learning packages whenever possible.
- Contact at delivery sites

- Bridging of tourism programs in the community colleges with the MSVU Tourism and Hospitality Management Degree

- Use of development teams to evaluate and develop courses

- Retention of copyright to course packages by the University, with contracts issued to course writers and reviewers.

The Open Learning program which grew out of these recommendations can best be described in the context of a model proposed by Verduin and Clark (1991), which identifies six key factors to be considered in the development and implementation of such a program. These are: "assessing entering behaviour, specifying behavioral objectives, specifying learning units and procedures, presenting learning units and tasks, performing of tasks by students, and assessing the performance of the students" (Verduin and Clark, 1991, p.156). A similar development sequence is outlined in *Open Learning and Distance Education in Canada* (Secretary of State, Canada, 1989), starting with needs assessment and proceeding through the design and production of course materials (often by a project team), selection of the medium of instruction, production and distribution of course materials, provision of support services for learners, and learner evaluation. This type of sequence was used to structure the Open Learning program.

During the early research and course development phases, many faculty members challenged the notion of Open Learning, even though DUET had been in existence for many years. While DUET used television cameras and broadcast delivery, it was set in the context of the traditional classroom and posed little threat to the rules and procedures of traditional university teaching. The Open Learning program, on the other hand, increased suspicions and skepticism about the suitability of a distance method to achieve university degree credits. Faculty were concerned about quality, creditability and the integrity of Mount Saint Vincent University courses. As the program evolved, Open Learning demonstrated the need for guidelines, policies and procedures for distance education. Requests to stretch traditional boundaries due to

student time and space needs were exceptions to the rules. These challenges increased the perception of Open Learning as separate and distinct from the traditional class.

The design and development of the Open Learning program were guided by knowledge of the learners, the majority of whom were adults working in the tourism industry, and their motivations for enrolling in the program. We found that many potential learners already worked in tourism and had an extensive practical knowledge of the field, but some lacked the managerial skills and a broader conceptual framework which would allow them to build on their existing knowledge in order to solve an array of problems or to deal with a greater variety of management situations. Furthermore, since the core of the degree is the Certificate in Business, the potential learners also included those working in or planning a career in businesses other than tourism.

To assess the needs of these learners, the program director and coordinator visited eight distance education institutions in Canada and the UK. In addition, they sent a needs assessment survey to the 184 members of the four Atlantic provincial tourism organizations to determine their views on the courses that should be offered and the methods of instruction. The 89 people who responded had, on average, been working within a variety of facilities, associations and institutions in the tourism industry for 10 years. The majority of the facilities in which the respondents worked had small staffs; 29 having under 5 employees and 28 having between 6 and 25 employees. The level of education of respondents ranged from less than Grade XII (7 percent) to one or more university degrees (38.4 percent); 26 percent had technical or vocational training; 28.6 percent had Grade XII education. Over two-thirds of the respondents were interested in courses that provided university or college credit.

Course Development and Delivery Medium Selection

As Cropley and Kahl (1983) note, distance learning requires the development of special materials, supported by specially designed activities and delivered through some combination of suitable media to link the student with the instructor. Print-based packages were developed for each course using development teams. In the process of completing the distance research, other distance experts recommended the instructional design principles and application put forth by Briggs (1979) and Dick & Carey (1978). These instructional design principles were followed in the development of the printed materials, and development teams were formed in each discipline. Similar to a traditional classroom, these principles typified the transmission or first generation of distance or correspondence education as Kaufman (1989) defined.

Each Open Learning team had a chair, a course writer, course reviewers and associated resource people. Academics were contracted to develop blueprints which set out course goals, objectives and module descriptions. The Open Learning development team then reviewed the blueprint and decided how to proceed. After the team and other tourism industry and academic reviewers approved the first module, the course writer developed the remaining modules. Recreating the laboratory environments in print was an especially strenuous mental challenge. An instructional designer examined each course for clarity, accessibility and readability of course notes; relationship of course objectives, assignments and tests to course content; consistency and appropriateness of presentation; and course appearance.

Faculty and sometimes entire departments carefully scrutinized the course development process. Initially, faculty were concerned that the integrity and rigour of the course would be compromised in a distance mode. Faculty were concerned that students might perceive distance as an easier rather than a different way to obtain a credit.

On the other hand, the course development process was very beneficial to the THMT Department, which implemented a holistic curriculum review. For a department that had been offering courses for only 2 - 4 years, the review was an opportunity to scrutinize prematurely the content, integration and tiering of the content throughout the curriculum. In the process of working with Open Learning, the faculty acknowledged that Open Learning does not interfere with the development of the curriculum as approved by Senate. A true partnership was born.

Perceptions

Initially, the course materials magnified the image of distance education as separate and distinct. These materials were the first stage in changing teaching and learning methodologies at MSVU. They permitted faculty to shift the focus from teacher-centered to learner-centered or, as the popular adage goes, from 'sage on the stage to guide on the side'. In addition, a few faculty members used the course materials for their on-campus classes. This symbolized the convergence of traditional and on-campus classes using one of the first forms of communication technologies: print.

Print materials were supplemented with weekly contact between students and the tutor using audio-teleconferencing and/or audiographics technology. The audio-graphic technology enables a personal computer-based multimedia, multi-point, visual conferencing system which allows for simultaneous sharing of visual materials and real-time interaction among the instructor and the students at remote locations. Some Open Learning students came to Mount Saint Vincent University because the university is one of several linked delivery sites. The first linkages of this nature in Nova Scotia started in 1992 with Open Learning courses, but complete provincial linkage has only been available since 1995.

Site linkages were the second stage in the blurring of the boundaries between traditional and distance education. Many faculty resisted this concept, reasoning that if students could come on campus to link once a week, why could they notcome for a

traditional course? Was Open Learning taking students away from on-campus enroll-ment? What many faculty did not realize was that, for many Open Learning students, distance courses motivated a positive introduction to university, thus encouraging them to come to campus full time as a result of this positive experience.

Linking students who had received the course lecture notes via technology precipitated the changing role of the professor and the students. Many professors still thought they must lecture. Integrating interaction into these technology modes was awkward for them. The student role also changed. Many students felt uncomfortable talking into the microphones. It took some time before technology became transparent to the group involved. This experience locally reflected a global emergence in educa-tion, which is referred to in the literature as the second generation of distance educa-tion or the transaction stage.

The instructional designers reviewing the THMT courses made a number of recommendations based on the observation that, generally, Open Learning students are older than on-campus students and bring more of their own experiences and ex-pectations to the program. Consequently, they want course materials to be clear, properly sequenced and aimed at their level of maturity. They want to know exactly what to do to complete the course successfully. They are prepared to give 'full meas-ure' in cooperation, motivation and level of engagement with the materials but do not like 'busy work' or 'fillers.' Instead they want tests and other assessments to be relevant, focused on the objectives and applicable, at some stage, to the practical experience they have or will have in the future. These elements were incorporated into the courses developed and a program evaluation in 1993-94 confirmed their ap-propriateness.

<u>Early Program Evaluation</u>

As the program's coordinator, I was well aware of the uniqueness of the Open Learning program and the resistance by some faculty. During the pilot phase of the

project, I spoke with students by telephone about their reasons for taking Open Learning, their experience and satisfaction with the program, and their assessment of the course materials. The results of this and further evaluations demonstrated strongly that learners were taking Open Learning courses because of the convenience of combining study, family, and work responsibilities in the home environment. Students who could compare with on-campus classes felt they had more interaction with the tutor than they had encountered with the instructor in on-campus courses. At first faculty had difficulty accepting that students might encounter more personal contact compared to a student in a large classroom.

In 1992-93, the first full year of course offerings, there were 99 registrations. Registrations tripled in 1993-94, and the registrations doubled again by 1996-97 to 650. Eighty-three per cent of these undergraduate registrants are women, with an average age of 34. Students are located across Canada, with the majority (77 percent) in Nova Scotia. Some of these students are individuals in remote locations studying at home for courses that are not available in their geographical areas. Other students are working in the business world for corporations such as McCain's Foods Ltd., Pratt & Whitney Canada, and Seagull Pewter, and are working toward up-grading their credentials.

In 1993-94, 52 students responded to a formal survey of Open Learning students, which consisted of ten questions about their satisfaction with Open Learning administration, the course packages, the contact with the tutor, and the technology used. Sixty-three percent preferred Open Learning to a traditional classroom learning experience. Virtually all learners strongly agreed or agreed that they had received efficient administrative service, received their course materials on time, found the welcome notice gave clear instructions, and found the contact with the tutor helpful and comfortable. Ninety-eight percent received their course notes in good condition. Course content was judged to be at an appropriate level (95 percent agreed) and course directions were also rated as clear and understandable (93 percent).

Summary

Reflecting now on the first few years of course delivery, I realize that we were consumed with the administration of a rapidly growing program within a rigid, closed and traditional system. First we needed to demonstrate the economic viability of the program. Then, we had to overcome faculty resistance to a program that was separate and distinct and so concluded that the program should model the on-campus courses as closely as possible. Finally, when we started this program, we found that the communication technologies for distance teaching were not readily available throughout Nova Scotia, let alone Atlantic Canada. Thus the premise for this thesis was not nearly as feasible five years ago as it is today.

In the last decade, the Open Learning program at MSVU has evolved through three generations: from correspondence, distance to open and distance education. New communication technologies enabled us to teach and learn with more depth than the surface learning of earlier generations. New learners are requesting and willing to pay for relevant, convenient and flexible education. Today, we are preparing to span greater distances.

Chapter Two

Open Learning: Open to the New World Forces

Introduction

This chapter examines what has changed since the beginning phase of the Open Learning Program. I now analyze some significant global changes in the past decade. New information and communication technologies have blurred many things that were previously separate and distinct. And, in light of these communication and technological developments, I ask what are the resulting trends on higher education?

Technology and Software Convergences in Canada

The term 'convergence' refers to the integration of telecommunications, information and cable technologies (Haughey, 1996). Scott and Dinsmore (1997) add that developments in telecommunications technologies raise exciting possibilities for teaching and learning in the future. Previously, on-campus courses were separate and distinct from distance courses, just as the telephone companies were separate and distinct from the cable companies. Today, increasing integration of educational and technological communication modes is contributing to several broad social trends such as the reorganization of information, production, and the workforce and creating a whole new range of unheard of possibilities.

Canadians have been engaged in education via communication technologies for decades. Radio, telephone and television each have a long history as separate and distinct educational communication tools. As a result of the launch of communications satellites in 1972 (Haughey, 1996), many new educational and entertainment opportunities are emerging. New tools, such as satellites, microwave transmitters, cable and

fibre optic cables, have led to the development of new products such as Net TV, a combination of television and Internet. These new tools assist in new convergences.

Convergence has also helped change the focus of the infrastructure providers from television to data (Haughey, 1996; Keough and Roberts, 1995). Changes in new and converging media technologies are happening quickly, but our governing regulatory agencies, like the CRTC, are slow in meeting the need for new policies to cope with these changes .

The pending negotiations for amalgamations and alliances of cable and telephone could affect education delivery significantly. Both Bell and Turner are leading the way in these ventures in the United States (Pirard, 1997). In Nova Scotia, the April 30, 1997 edition of the *Mail Star* reported that Maritime Tel & Tel (MT&T) and Bragg Communications, a local cable television provider, were working toward offering "an extensive line-up of communications, information, and home entertainment services and on-line commercial transactions." Though this deal fell through, other telcos and cable companies across North America are rushing to develop high speed Internet access. Content providers such as broadcasters, newspapers, magazines and journals are all scrambling for new markets on the Internet (Scott and Dinsmore, 1997). Consumers will soon have one-stop-shopping for a full range of commercial communication services on the Internet.

In the United States, deregulation of the Internet in 1993 opened the way for the development of electronic highways in both Canada and the United States (Haughey, 1996). The Canadian government has a history of supporting national communications and education, partially due to the vast geographical size of the country (Keough and Roberts, 1995). The National Farm Forum, an educational radio program for farmers, on CBC is an example of initiatives supported by the government. By 1993, the government's role in industry and business was changing from provider to facilitator. The government began encouraging partnerships with industry while assisting with policy and procedures at the same time (Haughey, 1996).

The Canadian Network for the Advancement of Research, Industry and Education (CANARIE) organized a public and private sector-supported consortium in 1993 to stimulate the growth of the Information Highway (Haughey, 1996). In 1995, CANARIE included educational institutions in the consortium. One goal of the second phase includes the construction of a National Test Network using Asynchronous Transfer Mode (ATM) technology. Presently, the Internet is optimized for data transmission; it does not have enough available bandwidth for interactive multimedia and multipoint applications. However, ATM will provide ample bandwidth for multimedia delivery (Hanton & Labelle, 1996). Another goal of this second phase is to stimulate use of the Internet and the information highway by upgrading Canada's computer link to the Internet, with CA Net (Haughey, 1996). The federal government is assisting with infrastructure development and promoting use of telecommunications as it withdraws from direct operation and ownership of these companies (Keough and Roberts, 1995).

In its facilitator role, the government is actively engaged in policy development. In 1994, Industry Canada established the national Information Highway Advisory Council. Haughey (1996) reports that of 300 recommendations from the Council's report, one of the significant items for education was the need to educate teachers to become technically literate as quickly as possible. If we do not prepare educators, the new generation of learners will be both more experienced and comfortable with technology than their teachers.

Yet, at the same time as government is promoting the need for computers and computer education in higher education, funding is being cut. The Information Highway is presented by government as a solution to educational providers for some of their present problems, but it may be a mixed blessing. Bates (1995a) details how governments expect higher education providers to respond to the needs of the new life-long learner in the workplace, while at the same time not only increase cost-

effectiveness but also justify measurable "outputs to the publics." This represents a shift in a new educational vision by governments as they encourage support for the changing workforce.

Globalization

Another trickle-down effect of dramatic technological advances is a global market-place. Access to information means local companies can compete globally. Reduced product costs have stimulated consumer demand and changed the traditional time and place for doing business. Technological advances and sophisticated transportation systems permit coordination and control of a fragmented, volatile, competitive global market (Plumb, 1994).

Today, the physical location for a corporation or education institution is not considered significant, as we are able to link people across the global universe by means of the Internet. Similarly, classrooms are often a network of distributed sites combining what was formally perceived as on-campus credit courses with distance classes. On-line virtual classrooms are a reality. Access to asynchronous communication tools such as electronic mail, listserv, and the World Wide Web also overcomes traditional parameters of time. Pacey and Penney (1995) describe how "the force of the media has opened the world to the public in real, unedited time, and the 500 channel universe is rapidly approaching". Countries can no longer control their increasingly transparent borders. The world is at the tip of our fingers thanks to converging technologies.

Changing Workforce

As the global computer-communications systems matured, a new world order emerged, resulting in restructuring and de-industrialization (Menzies, 1994). Manufacturing and resource industries that previously used information in a peripheral sense now centre information systems at the core, driving an increasingly automated system. There is a proliferation of stories in the media on the changes in the resource

industries such as mining and agriculture. One example is of farmers fertilizing and planting according to information from computers in their tractors linked to a satellite communication system. Automobile, food, and clothing industries have just-in-time manufacturing and shipping as data flows from computers to the factories using recorded bar codes in retail establishments. The result is a drastic erosion of the need for workers and thus employment.

Rifkin (1995) outlines how new information and communication technology is increasing the volume and flow of information throughout the workforce. In order to remain competitive in the new workforce, company decisions are made very quickly compared to the Fordist decision-making process. Traditional hierarchical management schemes cannot cope with the flow of information requiring quick resolution; consequently, organizational hierarchical structures are crumbling. Many jobs are being eliminated, especially at the middle management level. The department divisions and borders that accentuated the hierarchical structures are being replaced by networks or teams with easy access to computer information, permitting faster response time. As computer usage grows, companies can coordinate the flow of information and activity with fewer people in faster time.

Rifkin foresees properly programmed 'thinking machines' as replacing human labour in all sectors of society. Rifkin describes how:

> The wholesale substitution of machines for workers is going to force every nation to rethink the role of human beings in the social process. Redefining opportunities and responsibilities for millions of people in a society absent of mass formal employment is likely to be the single most pressing social issue of the coming century. (p.xv)

The resulting global unemployment and underemployment is the highest since the depression in the 1930s. Menzies (1994) reports that "between the introduction of free trade with the US in 1989 and 1992, 463,000 full-time jobs disappeared in Canada" (p 3). These figures represent a drastic change from the profile of the workforce ten years ago.

Similar to Rifkin, Bates (1995a), in *Creating the Future: Developing Vision in Open and Distance Learning*, notes the *shift* in the profile and nature of the work-force as society moves away from the resource-based and manufacturing industries of the industrial era to knowledge-based requirements of the post-industrial era. The profile of the new workforce is better educated, often doing part-time or contract work. Menzies (1994) calls this mindless, often part-time computer work a "McJob." Often these de-institutionalized workers are doing 'telework' for banks and retailing. For example, in Omaha, Nebraska, 40 percent of the city's workforce is involved in tele-retailing or telemarketing (Menzies), while other employees are telecommuting, working on computers at home and linked to their office. One in four Fortune 1,000 companies have employees who telecommute full or part-time (Tampa Tribute, 3 July 97). Many educators over the past few decades have fallen behind technologically; as a result, they are not able to educate for computer jobs.

Concurrent with this marked increase in unemployment and underemployment of formally trained people is a large group of people seeking further education (Mugridge and Kaufman, 1986). Governments are encouraging educators to adopt tele-communications technology and partnerships with business and industry in order to create relevant education and meet the need for wider access and equity to the new emerging students (Bates 1995a). Today's political leaders also strongly recommend access to education for school-leavers and minority and ethnic groups in their local area. These learners seeking training, re-training and certification are the indirect result of the latest technology revolution.

Higher Education Institutional Change

These societal factors have major implications for higher education. We have moved from Fordism or industrial times to a post-Fordism or post-industrial time during which the new tools of production have reconfigured the workforce. The changes in technology have forced society to shift from knowledge consumption to

knowledge production. As a result, the training and educational needs of the new workforce are different from those of previous generations.

Institutions are struggling to meet the needs of the new workforce but increased competition from other providers, new clientele, and new demands from government and industry also have drastic implications. Universities can no longer protect their own local geographical market. With the change in parameters of time and space, they now compete in a global marketplace. Higher education has become 'commercializing' (Oblinger, 1997). Students can shop electronically for the combination of programs and educational modes that best suit their needs. Traditional ways of selecting a university are obsolete. Students now have choices that were not available in the past.

A Few Other Major Educational Providers

According to Hall (1991) in *Access Through Innovation*, innovations in education generally are accomplished by creating new departments or whole new institutional structures. Today, there is a proliferation of new or modified institutions. One of the best known examples is the Open University in Britain, created to serve a new market of people who were upgrading qualifications and certifications as requested by the government of the day (Harris, 1987).

Harris, as well as Young (1995) and Prichard (1995), overviewed the development of the Open University in Britain and Australia. They believe these institutions are thriving because of their "open-ness" which helps provide a flexible, yet creditable, response to changing demands in the labour market. Since consultants or academics are hired on short-term contracts, they are well placed to take advantage of short term shifts in the external environments. They can respond to new industry training requests and survive well in a climate of government spending cuts. They serve as models of accommodation between higher education and labour market demands

(Harris). The Open University in Britain is one of the first examples of successful "bridging" of the traditional mode of education.

Another emerging educational model is the consortium or broker model. Universities are combining strengths to collaborate as education providers. Pritchard (1995) describes the Open Learning Australia model as well suited, due to modern technology, to provide global education with flexible, modularized learning that is readily adapted to place, profession, employment or culture. A consortium of 25 universities and colleges offer undergraduate courses in conjunction with industry and corporate partners. The undergraduate courses are selected by a process of competitive tendering between the partners. The key criteria are academic standards and quality within a curriculum framework.

New universities have been invented, the access to which is solely through technology. For instance, Walden University in Florida is a global community of adult scholars linked on the Internet. Walden, like many others universities, recognizes that students need flexibility in their pursuit of education while continuing to meet family and career commitments. These students use their workplace as their research site and they have considerable flexibility in shaping their own course of study. The Walden experience is referred to as the "scholarship of application" (http://www.waldenu. edu).

In the United States, the Western Governors University is a consortium with 13 universities launching a similar type of project. Closer to home, the Association of Atlantic Universities (AAU) put forth a proposal on September, 26, 1996 by for the Atlantic Canada Universities Open Learning Accrediting Service. If approved, this model will provide accessibility to thousands of people who already have university credits, to continue their studies from accredited institutions without a residency requirement. Openness, flexibility, removal of the artificial barriers, increased access and distance education technologies are the foundation of these models.

<u>Institutional Shifting</u>

A host of writers in the last decade (Hall (1996); Harris (1987); Trachtenberg (1996); Brown and Duguid (1996), Tate (1996), Brown and Duguid (1996) and Tate (1995) state that universities need to respond to the social and economic changes of our day. These changes, due to the transformation in communication technology, are resulting in global competition and a rapid transformation in the way knowledge and information is transmitted, manipulated , and processed (Hall, 1991). Industry and business have adapted to these changes but universities of the past have prided them-selves on resisting change (Trachtenberg, 1996). In the meantime, distance learning is not only being encouraged by government but is being embraced by the general public and can be conducted at the speed of light. Therefore, universities are experiencing internal struggles with the imbalance of this rapid change.

The recent literature illustrates many examples of the increased pressure on centres for higher education from the public and government sectors to reinvent themselves (Bates, 1995a; Haughey, 1996). The conventional physical structures for lectures, seminars and even labs are being challenged. Examples of reinvention are evident in new classroom configurations, such as the blending of rural and urban students of continuing university education throughout Nova Scotia by means of distribution sites linked with telecommunication technology forming Network Nova Scotia. Rural students have access to courses and programs where previously they did not. Another example is found in MBA programs offered by Dalhousie, Queens, and St. Mary's Universities where partnerships have been formed with the private sector to use business space and videoconferencing to bring programs to the working clientele.

In summary, our higher education institutions are feeling the brunt of the silent or 'unseen' hand of technological convergences (Menzies, 1994), and they are trying to adjust to the following technological and societal changes:

- governments have reduced their support for higher education

- the global marketplace and global competition are challenging institutions to reconsider accessibility and the time and space of educating

- the knowledge explosion is changing the role for faculty as teachers and researchers from one of knowledge providers to knowledge facilitators

- industry and business are demanding relevant curriculums and skills from knowledge providers

- the profile and needs of the learner are different

In the following section I present a detailed look at these concerns in order to demonstrate how rapidly things are changing.

Impact on Higher Education Institutions

Government Reductions

Funding cuts have forced higher education institutions in Canada to increase enrollment without increasing support for faculty and students (Oblinger, 1997). The federal government began to eliminate transfer payments. Distance education is seen as one economical solution to increasing enrollment. Another economical solution government encourages is for higher education institutions to develop partnerships with business and industry for educational preparedness and national productivity (Haughey, 1996). Increasingly, educational institutions are feeling the effects of government decentralization.

The Canadian Council of Ministers of Education's report on Distance Education and Open Learning outlines the growth occurring in distance education and open learning education institutes in Canada. A few statistics from this report reveal the following.

- Universities increased distance education course offerings by 27% from 1990-91 to 1993-94

- Internet connects 20 million users in the US, Canada, and 150 other countries, with the number of users doubling in 1993-94 and growing at a rate of 10% a month

- Telecommunication educational consortia exist in six provinces, linking 997 communities and over 40,000 students

- In addition to supporting credit courses, the consortia dispense courses for others such as workplace training and continuing education for health professionals.

- Penetration of distance education with both the community colleges and the private sector is expected to increase significantly over the next five years (i.e., 29% expect a growth rate of more than 100%)

- This report charts enrollments in single-mode and dual-mode institutions, but there is no reference to mixed mode institutions.

The report does outline several new types of convergences that are evidence of the shifting trends for education providers. First, in April 1994, Stentor, an alliance of nine Canadian telephone companies, announced The Beacon Initiative to upgrade networks to provide multi-media services to homes, offices, schools and hospitals across the country. Second, educational consortia were formed to provide infrastructure of telecommunication services and equipment at community learning centres. Government is predominately providing the infrastructure support. Institutional cooperation rather than competition is encouraged in several venues: shared course development, joint course development, and shared support for students using distance technologies. Government is facilitating access to education, partnerships with business, and steering higher education along a more collaborative course towards the future. These links show the power of partnerships in times of government restraint.

<u>Changing Profile of Learners</u>

In addition, universities need to adapt to new pressures for relevant knowledge (Harris, 1987). Universities traditionally encountered young people studying for four years, often living on-campus, and then seeking employment. Today, many university students have jobs while they are attending school because of the high cost of post-secondary education. Thus, they are studying longer. In addition, older students are returning to learning settings because of unemployment or the need for retraining. The younger group come equipped with computer skills, while the older group bring many lifeskills, responsibilities and experiences. Both groups seek applicable, relevant knowledge.

Government support for accessibility and relevant education is described in the *Report of the Task Force on Labour Adjustment* to the Canadian Labour Force Development Board, (1993). Its authors state that educational and training institutes need to be more flexible and better prepared to meet the training requirements of new displaced workers. The task force report recommends: flexible admission, worksite-based training, and more flexible schedules in course offerings (p. viii). Higher education institutions are responding to these recommendations.

The new displaced workers frequently have several decades of workforce experience. Prior experience is starting to be valued within the higher education system. One example is the Prior Learning Assessment Centre in the Halifax Shopping Centre, established in 1995 to assist adult learners in assessing past work experience for credit (CAUCE, 1996). The Centre provides educational advising, assessment and referral for adults returning to learning. All the local universities in the Halifax Regional Municipality cooperate in providing this service to these new learners.

Pritchard described the new learners at the Open Learning in Australia as 'empowered and aware consumers'. This type of student, predominately from the urban areas, is shopping for the best quality and value. Close and Martin (1996) depict how students are tailoring degrees by selecting courses from a variety of insti-

tutions based on their individual merit. Tate (1995) suggests that today's consumer is selecting portable credits and degrees from several institutions regardless of location. Global communication technology convergence enhances global shopping for higher education via computers from anywhere, at any location. These new learners, with their ability to combine work and education, and their need for flexibility and convenience, pose some interesting challenges to faculty members, as outlined below.

Changing Role of Faculty

Faculty have traditionally taught a fixed curriculum, in a fixed location, at a fixed time, to a fixed age group who have met fixed and rigid entry level requirements. Only for the last decade have we talked of the "Virtual Learner," of any age, exposed to the whole course content at once, linked from most anywhere at any time. Is it any wonder that the proposed educational changes of today are disruptive to the majority of faculty members?

Technology is not new to faculty, who, over the years have used many tools such as films, photo-copiers, and overhead projectors to supplement instruction. But today's technologies require more time and effort to learn if they are to be used effectively in teaching. Colleges and universities have traditionally put technology and pedagogy out of the academic mainstream. Many faculty are perceived as reluctant to integrate technology into their teaching. On the other hand, in the traditional systems, there is no financial or time incentive for participating in technology-based education or redesigning courses for a new medium (Roberts, Rossiter, & Duncan, 1996). Today, faculty members continue to be rewarded for research and writing. Sedlak & Cartwright (1997) and Roberts, Rossiter & Duncan (1996) argue that course design, course development and course delivery or teaching are undervalued in the traditional learning institution. If we are in the "Third Revolution" as Rifkin states, then teaching staff need encouragement and support to use new technology in diverse approaches to teaching that society has not previously encountered.

Pedagogically, faculty have been responsible for curriculum and content but not instructional course design. They are ill prepared to design courses since they seldom are taught how to teach. They are subject matter experts without pedagogy. One solution recommended in the literature is team-based course design. In the past, the focus was on the course controlled by the professor. Many faculty members, as subject matter experts, are not used to collaborating on content. Authors suggest this trend is not only changing but needs to be accelerated as the distinction between distance education and classroom learning becomes obsolete.

Sedlak and Cartwright (1997) describe this phase in higher education as a "new stage with a new play". They support new production, new delivery modes and ultimately, the emergence of newly certified organizations. If university faculty remain subject matter experts, they must find themselves selling their courses to these new credit-granting organizations. This example, similar to Open Learning Australia, reflects how organizations are combining and blending resources and expertise to offer higher education to a changing public.

Shifting Pedagogy

Shifts in pedagogical approaches to distance education have been creeping into literature over the last decade. The case studies presented at the 1992 New Delhi Symposium on Student Support Services in Distance Education (Sweet, 1993), reflect a change in the operating principles of distance education institutions. According to Sweet institutions are moving away from the traditional "industrial" model that is characterized with instructional or correspondence packages towards a more "distributed" model based on study centers or communication networks that allow greater interaction. Holmberg (1986) also notes the increasing availability of instructional strategies from independent study to computer- mediated learning. The trend was obvious in July 1995, when the Open University hosted an international conference on

open and distance learning, entitled Putting the Student First: Learner-Centred Approaches in Open and Distance Learning. Farrell and Haughey (1986) outline the trend away from the regular teacher-led classroom, to extension models in local facilities, and to computer assisted instruction and independent study models both in traditional settings and at home. According to these authors, distance instructional strategies have many on-campus capabilities. Evidence of this is creeping into the curriculum at Mount Saint Vincent University.

The Sisters of Charity established the Mount in 1873 to train novices and sisters as teachers. During the last 124 years, the institution has experienced constant growth and change, but the teaching remained fairly traditional until the past decade or so. By traditional, I mean on-campus or extension classes conducted in a classroom, face-to-face, at a set or synchronized time. Information was disseminated in a one-way or didactic/lecture approach. This linear or sequential approach is referred to in the literature as an industrial model/mass or batch production and/or a banking approach (Payne, 1995).

The Mount embraced innovative technologies for teaching in the 1980s. Distance education technologies through Distance University Education via Television (DUET) and the Open Learning Program, with audio-graphic teleconferencing, led to new programs with greater accessibility for students, especially women. These innovative programs contributed to a shift in the institutional profile from a traditional campus to a dual-mode institution. Fallows and Robinson (1995) report that there are benefits in consolidating the efforts of mixed-mode institutions. Their description of the mixed mode approach in Open Learning at the University of Luton reveals how this occurred at a time, in the early 1990s, when the university was in transition. The university's administration needed to maximize the investment in resources (people, premises, student and staff) but they also recognized that this scarcity offered an opportunity for an "additional and powerful teaching and learning methodology". I believe the same potential exists at MSVU. The majority of faculty members at the

Mount have not yet begun to consider this shift into a mixed mode of pedagogical approaches. Therefore, I consider this a "quiet convergence" at present.

Inherent in the mixed mode is the third generation of distance course design. In the following section, I shall review some of the main shifts in teaching and learning methodologies in the three generations.

The First Generation – Correspondence Education

The first generation of course design in distance education can be defined as correspondence, control and concept mastery. Generally, correspondence education was teaching in a written form combined with communication with a tutor, also in writing. Generally, this written feedback occurred through the postal service. The fundamental technologies of the generation were the printing press and the postal service.

The principles of correspondence education are derived from behavioural psychology (Holmberg, 1986). Also referred to as behaviour modification or operant conditioning, purported by theorist B. F. Skinner (1968), behavourists seek changes in behavior brought about by the educational process. Consistent with these principles, correspondence teachers convey facts, skills and values in a one-way transmission mode (Sweet, 1993). The transmission mode is typified in many sequenced, distance instructional materials following the model of Gagne and Briggs (Miller and Sellers, 1985). The transmission mode is a conservative model and textbook controlled.

Similarly, Kaufman (1989) notes that the learner had no choice or power in their learning. They were controlled. This teacher-centered approach supported by Lawson and Patterson (1982) identifies the learner as incapable of choosing what is educationally worthwhile. These authors consider learners, regardless of age or experience, subordinate to the teacher. It is the teacher's role to transmit "neutral knowledge," value-free or independent of social context. The learner's role is to study, primarily independently, cover the chosen content and feed it back to the instructor.

Students learned many things by memorization and felt uncomfortable challenging the views of the teacher. Authors such as Payne (1995) and Peters (1994) refer to this mass delivery of rationally planned, packaged information to passive recipients as being akin to Fordism.

The Second Generation – Distance Education

While the first generation replicated the early, rigid public school system, the second generation became a more shared process influenced by developmental psychologists such as Dewey and Piaget (Miller and Sellers, 1985). Dewey applied rational or scientific principles to social problem solving while Piaget believed that interaction with other learners in a stimulating environment led to democratic problem solving or a citizenship orientation. Miller and Sellers, in the transaction mode, accepted that the learner reconstructs knowledge through dialogue and that instructional strategies should facilitate problem solving. They considered this approach suitable for social and political reform. The transaction mode was more liberal than the previous transmission mode.

The learner had more choice in courses and topics or projects during the second generation. Synchronous dialogue opportunities increased with audio-teleconferencing, interactive television and some face-to-face interaction. Though developmental psychologists encouraged problem solving in a social context, content coverage remained the main focus of this second generation of distance education.

The Third Generation - Open and Distance Education

Kaufman (1989) refers to the third generation in course design as a "quantum leap" from the previous generations. Learners make choices and influence what, where, why and how they study. This independent learning or self-directed learning is supported in the literature by authors such as Brookfield (1986) and Knowles (1980). Brookfield believes that the mix of individual learning in groups and in a personal self-

directed way with facilitators is generally the most effective process for enhancing adult learning. Self-directed learning, to Brookfield, involves reflection, critical thinking and extracting personal meaning from the experience. Like Brookfield, Knowles supports the concept of the growth of human potential. Knowles proposes "andragogy" as the art and science of helping adults learn. For Knowles, the teacher is a facilitator who aids adults in becoming self-directed learners. Kaufman's approach complements the independent, problem-solving and critical thinking of Brookfield and Knowles.

One significant component of Kaufman's third generation course design approach is a high degree of dialogue utilizing more traditional communication devices and incorporating computer-mediated communications (CMC). CMC is referred to as a post-industrial approach (Garrison, 1997), providing collaborative opportunities both synchronously and asynchronously but predominately asychronously. CMC focuses on on-line applications such as e-mail, electronic bulletin boards, newsgroups and databases. Another application of CMC is the Computer Conferencing (CC). CC does not replicate traditional classrooms but offers a combination of verbal discussion with video and audio teleconferencing and asynchronous written communication. Garrison outlines the values of both, with real-time verbal communication being spontaneous and less structured and written communication being more precise and reflective. He thinks this means of communication is consistent with the higher order thinking and cognitive development sought in higher education.

Kaufman argues that the recent advances in communication technologies make possible the application of the third generation thinking skills. This emphasis on creative thinking and problem solving was not possible or encouraged in the past. The thinking skills that are essential in a society of rapid change are now being supported in the emerging third generation of open distance education.

Kaufman's third generation is paralleled by Miller and Sellers's transformation model. Their transmission to transformation continuum traces a movement towards a student-centered view of learning characterized by increasing curricular and instructional flexibility. The instructional design flexibility supports the integration of learner needs into the curriculum design. This holistic approach reflects the influence of the humanist paradigm. Humanist authors such as Maslow (1976), Rogers (1961), Friere (1993), and Mezirow (1990) view education as a vehicle for individual development. Their theories pushed the humanists to a state of critical reflection. Maslow and Rogers stressed that adulthood is a process in which people continually strive towards self-actualization and self-fulfillment. Friere and Mezirow not only view education in adulthood as a process for individual growth but suggest that as people integrate new experiences into their meaning schemes and critically reflect on their world, their actions will lead to social and political change.

Education for the third generation of open and distance learning is generally for adults. It is taking place in a time of dramatic change. Knowles' model of adult learning has been in the literature for 20 years and I suggest that it would be timely to reconsider the andragogical model – the study of adult learning theory – as a model for today's learners. Perhaps it is time higher education institutions consider a shift from pedagogical to andragogical approaches.

Summary

Convergences in technology are linking the world in unprecedented ways. One result is the changing time and space of higher education. Another result is an explosion of information available through computers. Growth in the use of computers has resulted in increased unemployment and underemployment of people of all ages while the workforce requires and demands new and relevant education from the educational providers. The result is the emergence of new educational providers, new

educational consortiums and new educational partnerships. The university as a priviledged place of knowledge is becoming outmoded. Formerly supported by government, universities are experiencing reduced funding and increased pressures for accessibility and accountability. Governments' role has changed from supporter to facilitator, in large part due to communication technological capabilities.

Chapter Three

Open Learning: Quietly Shifting to the Future

Introduction

My time as Open Learning coordinator has been exciting. I have seen a dramatic growth in the program that is in keeping with the trends outlined in Chapter Two. My early discussions with other distance providers confirmed the need for a print foundation with scheduled interaction for a successful distance program (Amirault and Smith, 1988). However, in 1988, there was no infrastructure to support provincial interaction, let alone an infrastructure for national or international interaction. According to Kaufman's depictions of the three generations of distance course design, Open Learning could confirm support for the first generation or correspondence stage in 1988 but the rest was a vision.

From 1988 to 1992, course development was the main focus of the program but, at the same time both MSVU and Nova Scotia Department of Education were exploring communication technologies for interactions. By 1992, both the Open Learning program and the Department were ready to pilot an audiographic teleconferencing system. This began a distributed network, called Network NS, to link Nova Scotians for distance education interaction. It also represented a move into the second generation of distance education for Open Learning, as described by Kaufman.

As we progressed into the course delivery phase, student interest grew rapidly. Registrations doubled and tripled as course offerings grew from six courses in 1992 to over 40 courses in the 1996-97 academic year. In 1996, one additional component that contributed to this rapid growth in registrations was the inclusion of graduate adult education courses in the Open Learning course offerings. It was this inclusion and the resulting pedagogical approaches introduced to me by Professors Welton and Plumb that contributed to my thesis premise that distance education and traditional

education are being intertwined. According to Kaufman's model, Open Learning has reached the third generation of open and distance education.

In this chapter, I focus on the impact of the three major trends discussed in Chapter Two on the development of comprehensive course notes, the development of a provincial distributed network, and the contribution of the graduate adult education program. In the process of reflecting upon these trends, I share the pertinent results of Open Learning students' and Open Learning faculty's surveys and interviews in order to provide a better understanding of the learners, their learning preferences, and the pedagogical approaches of faculty. First, however, I examine the communication technological convergences as they impact on MSVU, since these convergences are the foundation for the shifts both institutionally and pedagogically.

Trends in Communication Technological Convergence at MSVU

New technologies impact how we learn, but the technology revolution in education means universities must compete for learners. To compete successfully requires an investment in new equipment and materials development, accompanied by an institutional and pedagogical realignment with the needs of today's students.

The realities of funding cuts and rationalization must be factored into our assessment of the impact of technology convergence on distance education. Harris (1991) briefly describes "rationalization" as the dominance of a particular kind of rational calculation, devoted to selecting the most efficient means to secure an opera-tionalized end. In this light, education technology can be viewed as the rational form of a curriculum production, with distributed course materials using effective commu-nication for the purpose of achieving grades and credentials. Harris describes how rationalization spread quickly in the United Kingdom due to the pressures of market forces and government intervention. Accountancy was the main goal and he challeng-es us to consider the 'value' rationalization that occurs in the process.

As noted, in the development stages of the Open Learning program, experienced administrators and educators at other universities recommended, as stated by Kaufman, that a high degree of dialogue be available. We struggled to support the print materials and also to cover the costs incurred with weekly audio teleconferencing. In fact, we still operate in a make-shift form of audio teleconferencing rather than incurring the full costs of using a bridge for audio teleconferencing. As also noted previously, the Nova Scotia government struggled with the concept and cost of developing a communication infrastructure for the province. MSVU, recognized as one of the early leaders in distance education in the province, was encouraged by government leaders to demonstrate a need for the provincial communication infrastructure. Open Learning piloted programs in 1992 and, gradually, demonstrated the need for an infrastructure as provincial education leaders contemplated the costs. To use a common phrase, 'the rest is history.'

The 1994 Distance Education and Open Learning Report, by the Council of Ministers of Education, recorded that six provinces had telecommunication educational consortia. In Atlantic Canada, these are in Nova Scotia (Network NS), New Brunswick (TeleEducation NB), and Newfoundland (Telemedicine - NF). Even though these three infrastructures emerged by 1993-94, common standards and technological compatibility did not exist. Again, Open Learning at the Mount pushed for transparent borders in Atlantic Canada as we tried to fulfill the ACOA mandate of offering the THMT degree to improve the quality of training and services in the industry. In 1993, the telephone companies in Nova Scotia and New Brunswick, in conjunction with the provincial infrastructure of NNS and TeleEducation NB, made this possible. Students from both provinces were linked for Open Learning courses and geographical borders of the region became transparent to the public.

Today, only four years later, the technological possibilities are much broader. As Haughey (1996) noted, national infrastructure is enlarging and converging. The National Test Network with ATM, the second phase of CANARIE, and the upgrading

of the CA Net offer unprecedented opportunities for the evolution of an information-based or knowledge-based society. These developments filter down to benefit a small program such as Open Learning as we integrate email, listserv, chat groups, and Internet into the courses.

Network NS and other educational consortia continue to upgrade to keep pace. This fall, courses offered over NNS will have Internet capabilities. Simultaneously, we can offer multi-media, interactive dialogue to local, national, and international learners — a service not available or affordable five years ago. For this reason, I disagree with Harris that educational technologies are the result of rationalization of educational operations. We, at MSVU, led the demand for some of this change.

On the other hand, government restructuring, provincially and nationally, and industry demands on higher educational institutions are strongly impacting small institutions such as MSVU. 'Access' and 'academic upgrading' drove the 1993 *Report of the Task Force on Labour Adjustment* in an effort to respond to the changing workforce. However, 'deficit' and 'debt' are the driving force behind some of the consortium plans in Nova Scotia.

In Nova Scotia, and especially in Metro, reduced government funding is felt very strongly at small universities. On November 17, 1995, a working draft of the Metro Halifax Universities Consortium Business Plan was circulated to the seven universities in metropolitan Halifax. The draft explains that the Consortium is the result of "actual and proposed public funding cuts" and "the perceived context for future funding and the current realities of a competitive free trading economy." The draft further explains how the consortium is a response to a "rapidly changing world confronting society where uncertainty is the watchword, while governments struggle with, and develop strategies to address, the deficit and the debt."

We are feeling the effects of these government cuts today. In March 1997, the Nova Scotia Council on Higher Education Discussion Paper on the Funding Formula recommended a 10.4 percent reduction in funding for Mount Saint Vincent University

for 1998-1999. If implemented, this reduction of 1.3 million dollars from the university budget could do great harm to a small university like the Mount.

I agree with Harris that the governments' new role as a facilitator of education technology for rationalization purposes can be perceived as yielding operational objectives. Rationalization can be used as a financial end, but I question whether it is also a reflection of our times and the developmental stage of communication technology. Regardless, the Open Learning program could not support the lifelong learners we encounter today, including some from across the globe, in both synchronous and asynchronous communication, if it were not for the government support in technological convergences.

Trends in Institutional Shifting at MSVU

Today's technologies are significantly different than educational technologies even a decade ago. They provide an unprecedented access to information, interactivity, and expert resources. Today's lifelong learners have a very different profile than that of the traditional student of a decade ago. They are often experienced adults seeking training or retraining for a new workforce. Today's distance educational materials have the potential of being integrated with the conventional classroom in modes that could not have been considered a decade ago. Distance educational materials today include print packages, CD ROM, email, listserv, Internet and multiple computer modalities of auditory, graphics and text. There is little research to guide institutions in these changing trends.

I argue that in the MSVU- Open Learning program, we have quietly and unintentionally eroded some of the traditional barriers between conventional and distance education. This erosion can be perceived as 'value added' versus 'value lost' rationalization as suggested by Harris. The result is the intertwining of the conventional and distance modes to a new mixed mode of education.

Looking back to the early history of the Open Learning program, a considerable amount of time, money, and effort was spent in course development — the first four years were dedicated primarily to course development. During the last five years, course development and revisions not only continue but have taken on a further dimension as the print is converted for use on the World Wide Web (WWW). Course development of print materials is inextricably linked to all three generations of course design.

My purpose here is to demonstrate that the Open Learning course materials are an important ingredient in the trend towards an institutional shift. To understand the importance of course materials from an Open Learning perspective, I address the role of faculty, process, and product separately. Later, in Chapter Four, I address issues associated with the development and delivery of course materials in a mixed mode.

Faculty members

Faculty members are subject matter experts. They play a crucial role in successful design and implementation of a distance education program. Initial support from faculty in the tourism and business departments laid the foundation for the Open Learning program. These faculty, similar to those described by Tate (1995), were responsible for curriculum and content but ill prepared for instructional design and technology. They had no experience in team development but with the guidance of a team including instructional designers, editors and graphic artists, they became receptive to learning and participating in this approach.

During the first four years in particular, a considerable amount of time and effort was contributed by faculty members from both departments in a holistic approach towards course development. As members of a department with a specific area of concentration, they reviewed blueprints for the appropriate tiering, emphasis and integration on content within the holistic curriculum. As writers, they developed the

curriculum, guided by guidelines approved by Senate for on-site courses. As reviewers, they provided feedback to their colleagues in the role of subject matter expert. As learners, they had to 'rethink' how to 'recreate' some of the learning experiences for distance, such as labs and group work that were traditionally offered in a different mode. The end result is a product that is appreciated and valued.

Product

The product, our instructional packages, have now been piloted and used for over five years with very positive feedback from our evaluations. The materials are based on adult learning principles, with clear objectives and a clean, concise format. The course notes, which are in a modular format, are easily revised to accommodate curriculum changes, new textbooks, or to integrate new assignments and readings.

Process

Haughey and Anderson (1997), in *Network Learning: The Pedagogy of the Internet*, consider the process of learning design support critical to success. Content experts cannot be expected to have the expertise needed to transfer classroom learning to technology-based learning. Content needs to be re-examined by means of a team approach for use in new media. In Open Learning, a team approach was incorporated for the first stage of course development, but we did not know what technology would be available at the delivery stage. With the Open Learning program, we could afford not only the expertise of instructional designers and editors, but also other external reviewers. In the process of developing Open Learning materials, external reviewers (as subject matter experts) were contracted to review specific content materials. In addition, external reviewers from other notable distance programs were contracted to overview development of the program at that stage. At the same time, an additional external instructional design reviewer was contracted to review the block of courses. In brief, we tried to ensure that academic quality, integrity and credibility were present throughout the course development process.

After five years of scrutiny, the results for both faculty and the institution are noteworthy. Several faculty, on their own initiative, include their course notes in their on-campus classes. Faculty include their course notes in their portfolio as they are considered for academic promotion and tenure. Several Nova Scotia community colleges purchase specific distance course materials to complement their on-campus courses. The course materials are used as a model for other national and international institutions considering the development of a distance program. Course materials, combined with interactive technology, represent an opportunity for a higher education institution to consider a significantly different pedagogical approach than that found in the conventional classroom (Fallow and Robinson, 1995).

Increased shifting with the Graduate Adult Education Courses

In 1996, MSVU introduced the Master of Education (M Ed) program in Adult Education. The introduction was the result of government efforts to reduce duplication in educational offerings. The rationalization process resulted in the elimination of the Educational program at Dalhousie University and its transfer to MSVU. Several former Dalhousie faculty and students transferred to MSVU as a result. Since some of these students needed to complete a few credits and were now living outside of the Metro area, the faculty met with Open Learning to explore possibilities.

The possibilities were exciting for faculty members, students, and the Open Learning administrator. The faculty designed and recruited for a new program at MSVU. New clientele expressed interest in the program. The interest went beyond the conventional student; rationalization changes in the health care field, the community college system and community economic development were forcing many adults to teach fellow adults in their respective field. These adults appreciated the value of complementing their content expertise with pedagogical theory. The challenge for MSVU faculty and administration was to meet the needs of these new students.

The Open Learning program was ideally positioned to respond to the changing needs, as adult education is an open and progressive discipline. Based on the notion of communicative learning, it engages adults in active and critical refection of their world. The adult education faculty are 'open' and receptive to rethinking new ways to offer the curriculum. A powerful synergy developed as we collectively explored the use of new communication technologies and re-packaged the print-base and teaching methodologies. The result was to offer the classes 'one way only' to a set of distributed sites (including on-campus and distance sites) using a mixture of print and seminar discussion via communication technology. In the process, the institution silently shifted to a 'mixed mode' for this discipline. Fallows and Robinson describe how the shift usually happens because of externally imposed financial reductions, but our switch was to serve the needs of a new, large, and varied clientele.

Pedagogical Shifting

Kaufman (1989) describes how organizations that embrace the third generation — open distance education characteristics of control, dialogue and thinking skills — will need to experiment and learn how to apply numerous teaching models, while using a greatly expanded repertoire of teaching strategies. Two adult education faculty members, as early adoptees of the third generation, shared some of their thoughts on this educational transition in personal interviews with me on April 16, 1997. André Grace and Michael Welton's goals for the students of critical thinking and transformative learning did not change just because the time and space of teaching changed. Instead, the question became, "How can transformative learning be achieved electronically?" To complement Kaufman's model, I now present a summary of my interviews with Grace and Welton and use them to illustrate Kaufman's characteristics of control by the learner, dialogue and development of thinking skills for the third generation. Grace and Welton's students experienced third generation depth of learning.

Third Generation: Control

The learner-centred approach of the third generation means learners have more autonomy and responsibility. They have a choice of why, what, how, where, and when to study (1989). The learner also has some choice in how their learning will be evaluated. In this model, learners are supported by the institution and other learners. With reference to the Open Learning surveys and research, I look at the Open Learning students using these third generation characteristics.

Multiple content choices exist in this discipline. Within the core courses, choices exist in the assignments. Within the summer institute and elective credits, choices exist in the modules selected. Learners choose the direction for their practica and thesis with the guidance of faculty. Learners are encouraged by faculty to select content according to their personal interest in preparation for a practica and an applied thesis.

The choices of where, when and how to study are mixed; learners primarily work independently during the week in their chosen time and space. Once a week, they come together at a set of distributed sites, where they may be alone or with a small group to participate in a seminar discussion.

In the seminar discussion, Grace and Welton enable the transition from incorporating group work in a face-to-face environment to a computer conferencing environment. Sites with a number of learners form one or two groups at that site; sites with individual learners are linked together to form another group. Grace affirms the need to allow for the exercise of 'power' by the learners, as recommended by Kaufman, by "setting directions for the group discussion and lifting himself out so students can talk to one another at a level they are comfortable." After a discussion period, they all come together for a total group sharing.

Students develop their own ways of learning. According to Welton 'study circles have popped up where students are wanting to get together to read and think,' independent of the regularly scheduled time. With the mixture of learning in this

program, students have face-to-face sharing, synchronized conferencing time, and asynchronized on-line time. Grace notes the 'energy' created by the summer institute as students get to know one another in this face-to-face setting.

Both Grace and Welton are cognizant of creating opportunities that are feasible and reasonable in terms of financial and time expenditures for the adult learners. Welton states, "You can't extract the learning, learning from life situation...as education moves into the 21st century...Accessibility is very much in line with the values of our program." With these thoughts in mind, Welton recalls how two learners who are pregnant and other learners who have lost family members all need support and tailoring of their program to meet their needs. Welton, like Kaufman, believes that "power" is mainly in the hands of the learner, while the faculty and the institution play more the role of a facilitator.

Third Generation: Degree of Dialogue

Kaufman's third generation of course design permits continual dialogue between faculty and learner and among learners. He encourages new modes of communication that value intellectual skills, where the best ideas are listened to and given an opportunity to develop. I want to re-examine this need for dialogue as it is used by Open Learning adult education learners and faculty. I share with you some first impressions and the rethinking that occurred for Grace and Welton as they moved through this transition in dialogue styles and strategies.

Their roles as faculty members changed. Their time and space was different. Instead of instructor and learner, it was now instructor, learner, and technology. Bridging the technology gap appeared more difficult to them at first than bridging the distance gap.

The seminar time for these core courses is one and one-half hours per week for ten weeks. These timeframes are rigid because of the demands on the provincial computer system (Network NS) for scheduling. Grace and Welton both felt concerned

and insecure in this new technological environment as 'techno-peasants'. Their first reaction was to resist and focus on the people present in the teaching site. Initially, they were preoccupied with insuring that they covered key content areas until they noticed other colleagues working innovatively. This transition is noteworthy.

Faculty members in this discipline were interacting with each other and sharing methodological approaches that they were trying. Forced to be more reflective than in a conventional classroom, they questioned how to increase student involvement, their art of questioning, their art of listening, and how to handle 'silence'. Welton notes that with Open Learning, he was "surprised but...pedagogical issues are sharpened...there is a relearning." Both Grace and Welton noted the importance of creating a 'community' of instructors who are doing this and sharing what is working and how they are learning, and how, together, they can talk about good practices. In noting their shift towards greater comfort in teaching with technology, they noted the transition in dialogue approaches with the students.

Several synchronous and asynchronous methods of verbal and written dialogue were integrated into their weekly lives. Grace used the list serve method for general information and discussion. "Email became a prime tool because you aren't restricted to time," he says. Welton, commenting on how some of the easy socialization around a traditional class time is absent in the technical linking, says it was the first time in his 15 years of teaching that the part-time students now finish a class and hang around. The students' solution to the rigid technical time is to go from their linkage session to another place for continued dialogue which they have coined 'Open Learning and Coffee Talk!'

As I already noted, Grace and Welton were concerned with 'the talking head', the time pressure, and the need to cover key points. With time, reflection and discussion, they became increasingly comfortable. André Grace shared with me his strategy once things settled for him:

One strategy that I used which was quite effective was to get students to volunteer to take responsibility to do a little synopsis as a reflection on a particular reading....What I would do is let students say, well, 'here are two or three key themes that were covered in the reading' ... or 'here's a good argument and this is what I thought of it'. I would make mental notes as each person was talking. I would use a technique that Ira Shore developed, called the dialogic lecture where the teacher or the instructor comes in at the end to bring ideas together. This gives students a little more control, a way to feel a little more empowered. They are sharing the information first and then the instructor emphasizes things he or she likes, or even points out where he or she might disagree with a student in a reasonable way. More importantly, the instructor brings the process and content together once the students have spoken in order to tie the different articles together under the theme or the heading for the module used that week. So there are definitely ways that are fairly traditional ways to increase student voice in the classroom. I think that a very key instructor concern should be maximizing opportunities for students to engage with one another and share their knowledge.

Schön (1983) describes how we identify problems when situations are puzzling, troubling or uncertain. During these unique or unstable situations, practitioners reflect upon their experience or "knowing-in-practice" to construct a new way of solving the problem. Schön refers to this as creating a "new frame." As I worked with these graduate adult education professors, I noted how they were initially troubled with the rigid instructional design of the distance materials. They questioned how they could achieve effective interactive course delivery with the new technology. They reflected upon their multiple roles as adult educators "a voice lived and learned to be shared and the need for their voice to be challenged," Grace stated. As a result, they created new opportunities or a new frame to successfully meet the new situation.

Third Generation: Thinking Skills

Kaufman suggests that new communication technology offers the potential to reinvent educational strategies. Thinking skills are possible in the third generation that were not really feasible with the first and second generation course design because the third generation curriculum emphasizes the development of problem solving, decision making, and critical thinking. Kaufman notes an additional powerful feature of this

generation is the ability to search and retrieve information from large-scale computer-ized databases such as the ERIC system. These thinking skills have a significant impact on the Open Learning adult education learners.

As noted earlier, course notes are the foundation of the Open Learning program. Designed with adult learning principles from Briggs (1979), and Dick and Carey (1978), this print base with its strong pedagogical backgrounds brought some interesting reactions from Grace and Welton. As a result of writing and teaching with the course notes, both found the course notes well structured. Grace felt they complemented his previous approach of lesson plans, and Welton noted how they complemented his carefully thought out course outline.

In the literature, authors such as Harris (1991) and Haughey (1996) note the range of opinions on the print base, from being encasing and solidified to fluid. Welton originally considered the Open Learning materials similar to a behavourist framework-similar to first generation course design-but, as he worked with them, his opinion changed. He found they "sharpened his skills to be inventive in assignments...to push the teaching in new directions." Futhermore, he stated: "I didn't feel that my creativity was somehow boxed in...It actually accentuated the pedagogical understanding of what I was doing...The Open Learning format pressures you nicely to make explicit that which is implicit...teaching methodology is pushed to the forefront and flexibility is built into the design."

Tate (1995) states that teaching staff are subject matter experts without pedagogy. Similarly, Welton states that, "one of the challenges in teaching anything really is to think it through pedagogically. I think what happens with university teachers is that they become complacent around the methodology because there is overwhelming pressure to be a content specialist not a teacher." Welton believes one of the challenges for the teacher is to teach people "how to think" in that discipline. He goes on to explain that "if you're a teacher of history, isn't one of your goals to somehow help your students to think historically?"

Grace and Welton, both comfortable with teaching the thinking skills of the third generation in a conventional classroom, were challenged to stimulate the same depth of thinking in two new ways: print plus technology. In the print mode, they created non-traditional assignments. Assignments were sometimes of a cumulative style as students gained new information from the notes and readings and were challenged to revisit and rethink issues. In other assignments, students were stretched to become historical figures and create a dialogue among these key figures. From a technology perspective, Welton says he was "open to enhancing what we think is already pretty high quality material...The audio-graphics offers very high quality in terms of the nature of the learning and the intellectual capacities that the students develop." Grace describes how people came to know one another by their voices over the speaker system: "a sense of voice is a good way of knowing." He felt there was value sometimes in not having visual impressions.

Both faculty members saw their roles in the classroom redefined by the Open Learning experience. Their technological transition meant they evolved from being scared, insecure and self-conscious. They gained more confidence in their new roles over time. Welton expressed that "we not just go with the flow for this major technical revolution but we must prepare for it." Challenged to use print materials developed by themselves or someone else, they used these materials as a "springboard for student discussion." As Grace states, "Here's one person's theory, here's mine and then we incorporate the students' point of view." Faculty possible spent more time in preparation for the contact discussions although there was reduced time with all students. Time was spent in other ways with Email, voice mail, and list servers. Grace and Welton, and others in this discipline, demonstrated that the interactive capacity of technology, in conjunction with well conceived learning strategies, can engage students in the depth of thinking skills which is the hallmark of the third generation of course design in distance education.

The Third Generation of Course Design

During the last two years, I conducted three forms of research in order to better understand the Open Learning students and their learning preferences. The research included two Open Learning surveys plus the Myers-Briggs Type Indicator, and a day with a few female Open Learning students conducting participatory research. In addition to trying to understand students' learning preferences, we sought information to improve the quality of the teaching-learning experience. In this section, I briefly outline the studies and examine the results of the students' surveys from the same perspectives as I did the faculty interviews, using Kaufman's model of the third generation of open distance education. These studies are presented in chronological order, starting with the fall of 1995.

First Research – Open Learning Survey One

Subjects: Participants were the 110 undergraduates registered in the Fall 1995 academic year in the Open Learning Program, 83% of which were females. These students had the following characteristics: mean age of 34, 78% were from Nova Scotia, and 64% lived within an hour's drive of the university.

Instruments: The *Myers-Briggs Type Inventory (Form F)* containing 166 preference questions. This instrument, based on Carl Jung's theory, identifies 16 different patterns of actions or preferences people choose for a given function.

Open Learning Survey 1 contained five administrative information questions, six attitudinal information questions, and ten questions on technical information.

Procedure:

During the fall academic term of 1995, the Open Learning students were surveyed to learn more about their personality preferences as measured by the Myers-Briggs Type Indicator (Form F). These preferences can affect our attitudes and behaviors regarding learning, teaching styles, and the curriculum.

The MBTI uses four pairs of preferences: extraversion (E), introversion (I), sensing (S), intuition (N), thinking (T), feeling (F), judging (J), and perceiving (P). The Open Learning survey and the MBTI were administered to the 110 registrants. Students were mailed a letter asking for their support in completing the survey and the MBTI. They were informed that their results would be available and explained in a forthcoming workshop. The Open Learning survey requested information on the learners' comfort and preference for distance education, and their likes and dislikes for the distance technologies. In addition, the survey questioned the students on their preference for Open Learning compared to teaching in the traditional, on-campus classroom.

Results of 74 Respondents – Study One:

Preferred Mode of Study	Introvert	Extravert
Open Learning	61.5%	38.5%
Traditional	24%	76%

Seventy-four of the 110 Fall undergraduate students completed the survey and the MBTI. Results of these two preference groups were tabulated on Selection Ratio Type Tables (SRTT). Note the results of these two preference groups in these two learning modes.

Ss were over represented in both preferences. Over 80% preferred S, and approximately two-thirds preferred T and J. The high percentage of Ss is of interest as is the high percentage of Ts in this predominately female group. Samples of Canadian university students have shown a higher preference of Ps than Js (Dr. N. Uhl, personal communication, October 25, 1996). This is certainly not the case with this group. Perhaps their willingness to enroll in an Open Learning program, in addition to their regular jobs, indicates a preference for organization and planning. Over 50% of these students show a preference for ST and SJ.

The results of the question comparing those who prefer Open Learning with those who prefer traditional learning are interesting and telling. The preferences for *Introverts* and *Sensing* were significantly over-represented in those preferring the Open Learning mode of instruction to the traditional mode whose preference for *Extraverts* and *S* were significantly over-represented. While there was no significant difference in the two groups when examining the sixteen types because of the small numbers in each cell, the self-selection index (I) indicates an over-representation of ISTJ and ISFJ types in the group preferring Open Learning. Fifty-three percent (53%) of the total group of students are represented in the two types of ISTJ and ESTJ. The S-T learners is characterized by Silver and Hanson (1982) as realistic, practical and matter of fact. This type of learner is efficient and results-oriented. Thus, both ISTJ and ESTJ have a strong reliance on facts; they like logic and analysis and prefer organization.

Second Research – Open Learning Participatory Research- April 26, 1996

Subjects: Several of the Open Learning undergraduate female students enrolled in the 1995-96 academic year. These students had completed the MBTI and the previous survey. Characteristics included a cross-section in female learners. Some had just completed Open Learning courses for one academic year and others had studied with Open Learning the full four years; some lived in Metro and others lived more than an hour's drive away; all three age ranges of 18-28, 29-39, 40-50 were represented.

Instruments: Students were invited to join a small group of their peers to share their experiences, questions and insights on distance learning and learning styles.

Procedures: The first portion of the day was spent setting the tone and getting to know each other. Students shared their thoughts on returning to learning and how they felt about their studies. Prior to discussing their results of the MBTI, we had a discussion on diversity and how each of us have preferences and dualities. Student guessed their MBTI profile as each pair was explained. Their results were shared and

they were encouraged to consider their preferences as they completed the activity on Ten Things I Know About Myself As a Learner. Discussion continued around the following questions:

- What problems do you encounter in returning to learning?
- What form of support do you want in your studies?
- What is the most valued lesson you have learned- not necessarily from academic work but from family, friends or a crisis?
- How did you feel then?
- How do you feel now?
- What do you want as a result of your studies?

The pertinent results and conclusions of the participatory research are included within the discussion of the third generation of distance course design from a student perspective.

Third Research – Open Learning Survey Two

Purpose: I surveyed the students a second time in the late Fall of 1996 to learn more about their preferred learning and teaching methods and desired support services.

Subjects: Participants were the 125 undergraduate students registered for the Winter 1997 academic year in the Open Learning Program. Many students were the same students that had completed the MBTI and the previous survey. Their characteristics remain similar to that of the previous year.

Instrument: Open Learning Survey 2 contained four administrative questions, five questions on preferred modes of communications using the Likert Scale, and five open-ended questions on learning preferences.

Procedure: Each student's package of materials for the forthcoming term included a letter asking for their support in completing the survey. They were informed that their preferences would help us access their preferred teaching and learning methods. In addition, the survey questioned the students on what they liked best about studying by

this method and on ways the Open Learning Program could better support their studies.

Pertinent results of survey one and two and the participatory research are included in Kaufman's characteristics of control, dialogue and thinking skills in the third generation.

Student Perspectives' on Control

Kaufman notes that learners have more autonomy and responsibility in their learner-centred approach. The Open Learning survey results strongly demonstrate Open Learning students like to be in control of where, when, and how they learn. Of the respondents, 73% prefer distance courses to be delivered at home. They choose this mode of learning because they often have employment commitments. Independence, flexibility, accessibility, and convenience are the key words mentioned throughout all three methods of study. Some prefer to work independently in a correspondence mode and feel adequate support is available at the university and thus need not be improved. Others mention that they value not going to the university campus both in time and cost savings.

Correspondence materials and print lectures were the first choice in learning modes for 33% of the group, followed by 30% choosing lectures and 28% preferring the group discussions. As they reflected upon themselves as learners, they noted organization to be another one of their important characteristics. Several others mentioned control of space with peace, quiet, and no distractions. This complements the Introvert characteristics of the Open Learning students from the Myers-Briggs survey.

Students Perspectives' on Dialogue

Kaufman's third generation of learners have continual dialogue between faculty and learners and among learners. It is interesting to note that when we started these surveys two years ago, access to e-mail, list serves, and the Internet was not as well

known or as readily available. So some of these surveys, completed prior to the introduction of these new modes, demonstrate the interest in more dialogue through suggestions for a buddy system or shared phone numbers so they can share opinions. Others suggested increased connection to the day-to-day campus life with the distribution of the campus newspapers.

Respondents preferred individual communication with the professor by set telephone hours (35%) and voice mail (30%). The majority preferred group communication by telephone (44%). However, at this time, survey results showed that as many were unfamiliar with or did not know about technologies such as e-mail and the WWW as those who had exposure and familiarity with these technologies.

Small group discussions with audio conferencing ranked high in complementing their learning preference. Small groups are more intimate. Participants appreciate learning the professor's view and sharing ideas in a mature class environment of questions and answers, not lectures. They felt connected with the weekly seminar calls.

Student Perspectives' on Thinking Skills

Kaufman notes a major emphasis throughout the third generation curriculum on the development of the thinking skills of problem solving, decision making, and critical thinking. The open-ended questions and the participatory research reveal the students' preference for a combination of teaching methods and assignments. Some students mentioned that they like to analyze; others wanted to bounce ideas off other students for feedback and other opinions. Some students felt comfortable challenging the professor's theories; still others wanted to compare their thoughts to other case examples.

Many respondents like the use of relevant practical examples. They respect the professors that are open and sharing of their real life experiences. One felt better about herself when learning more things that interested her. Some of these students'

thoughts reaffirm the theories of andragogy (the study of educating adults) proposed by Knowles.

In comparing the Open Learning program, Open Learning students' preferences and Kaufman's description of the third generation, there are several matching characteristics. Students enjoy autonomy and responsibility. Many prefer working independently in a quiet environment and having weekly discussions with a few people. Students appreciate the personal contact with professors and administrators. Inasmuch as the learning environment is different from the traditional classroom, it appears that technology, with time, becomes transparent, enabling the level of engagement and depth of dialogue to be recreated with the new technological communication networks.

Summary

The interviews reflect the faculty members' efforts to continue the dialogic lecture within the new technological paradigm. Group process, enabled by technology in both synchronous and asynchronous forms, permitted students to share their lived and learned experiences from multiple locations. Faculty used the print base as a stepping stone for questions to encourage critical thinking. A collaborative process of faculty-student interdependency was evident as student and faculty shared theories and challenged the theorists and their own ideas.

The students' surveys reflect some of the students important values, such as relevant knowledge, group discussion, and feeling connected to other students, professors and the university community. As responsible working adults, many selected this mode of learning in order to have more control over their time and space for learning. They are not choosing a technology; technology is the tool or the medium, not the message. Frequently, when students call to register they are not aware of the various technological interaction options. They are calling to continue their education.

According to the literature, the MBTI seems particularly useful for personalizing university instruction based on learning styles (Lawrence, 1984; Silver & Hanson, 1982; Myers & McCaulley, 1985). It is impossible to match each student's learning uniqueness with complementary instruction; however, as Lawrence (1984) stated, "to ignore individual differences in learners is foolish" (p. vii) He contends that attention to students' learning styles to "make contact , establish common ground, and pique interest" might mean more students would find higher education rewarding and satisfying. University administrators and faculty members informed about learning style preferences could develop more effective strategies for enhancing the academic achievement, personal involvement and, ultimately, the retention of more students. These educational goals are even more challenging when one is teaching distance students.

The Open Learning surveys and participatory research complements some of the findings in the adult learning literature and the ISTJ and ISFJ- Myers-Briggs characteristics. Students' preferences for quiet, independence and a learner-centered approach were revealed in several survey methods. Some learners value the weekly interaction; others appear more secure and could be self-directed learners. The development of the provincial network infrastructure for weekly communication permitted Open Learning students to learn at the second generation level of distance education.

The introduction of the graduate adult education courses to the public 'one way only', using a mixture of distance materials and technologies linking learners at a set of locations, symbolized the transition of MSVU from a dual mode institution to a mixed mode institution. The adult education faculty's pedagogical approach to critical thinking integrated into the courses with multimedia represented the third generation of open and distance education as described by Kaufman.

Chapter Four

Open and Distance Education Transformation

at a Mixed Mode Institution

Introduction

As we reflect on the Open Learners, reconsider when, where, why and how they are choosing to study. Some of their characteristics are similar to those previously mentioned by other authors. No longer is time a significant variable. No longer is place one of the criteria for the teaching and learning process. The demands of the workforce are new and different and reflected in some of our enrollments. People now can chose education from a virtual, global shopping mall. Authors such as Tate (1995), Bates (1995a), Trachtenberg (1996), and Harris (1987) suggest traditional universities need to adapt to the new pressures for relevant knowledge in these new times of accessibility and accountability.

Sir John Daniel (1996), Vice-Chancellor of the Open University in the United Kingdom, suggests that the security of humankind depends on our ability to provide education and training for everyone. He states that, "50% of the world population is less than 20 years old" and in some of the developing countries it rises to 70% and 80%. Without education, these youth may grow up "unemployed, unconnected and unstable." Before I consider the challenges ahead for MSVU, I want to discuss Sir Daniel's thoughts on the challenges technology has placed in the way of humankind. I believe the question he raises warrants consideration as we reflect upon MSVU's role in the next century.

Young people need education, not only for work and employment, but, also and more importantly, they need it to gain a sense of values and ethics. In this age of modern communication, with the world available at our finger tips through media such

as television, it is harder to instill the values of a society. According to Daniel, education and training are considered the primary route to the desired values of responsible citizenship. Higher education benefits both the individual who achieves socialization and working skills, and the community.

If universal and effective education is a solution, Daniel states that we have a crisis of access. The world needs a new university campus each week to meet the demand, yet the costs associated with this are prohibitive for today's economies. Alternative instructional methods using telecommunication networks are perceived as one possible solution.

Haughey (1989) questions that if Canadian universities claim to be institutions where knowledge is shared and society enhanced, can they ignore the trends in today's society of lifelong learners wanting to learn relevant curriculum in different time and space with new technologies? Both Haughey and Daniel tout 'quality and potential of technology' as the major issues of debate for universities that must plan for the future. These issues require consideration as we re-examine the Mount's mission for the next millennium.

In this chapter, I examine the issues of quality, the impact of technology, credit transfer and collaborative ventures in the context of the trends of technological convergences, and institutional and pedagogical shifting at MSVU. I address institutional issues first since I consider them to be most significant.

Institutional Challenges

The first mega-university to provide a renewed form of education was the Open University in the UK, established in 1969 to educate part-time adult students. Daniel defines a mega-university as a distance-teaching institution with over 100,000 active student enrollments for credit courses. Harris (1991) attributed the success of the Open University to its "open-ness and accountability." This institution provided a

flexible response to changing labor market demands for relevant programs at the same time as universities encountered governments spending cuts. The need for change could not be met within the existing Cambridge University (Young, 1995). Young recalls how the Open University was well suited to offer global, flexible, modularized courses.

Technology, as a tool, made it possible for the Open University to adapt to place, professor, or culture, however, it was responsive and open-minds that brought this innovation to fruition. In comparison, MSVU is at a similar point of transition and encountering some of the same social, political and economic pressures. The question is how the Mount will respond to these difficult challenges. My experience shows that MSVU is well suited to offer flexible, modularized courses to a global marketplace and I think we have attained a noteworthy start during the last nine years within the existing structure, but I question if we can accept and embrace the emerging trends.

Open and distance education have made significant inroads in certain departments at the Mount, especially the professional disciplines. It is difficult for the non-traditional areas, such as Open Learning, to gain acceptance in the more traditional disciplines of the Arts and Sciences at MSVU. Historically, these departments have been the foundation of a university and often the slowest to accept change. Why? Perhaps the issue of quality as described by Daniels explains in part why these departments are slow to respond. This appears to be a significant issue.

Quality

Daniel shares with us a few of the reasons why it is difficult for universities, in general, to embrace change. These reasons may help us understand some of the resistance at MSVU. Daniel's thoughts express how the public decides on the quality of a university.

According to Daniel, in the past, students chose universities based on reputation. Four factors that impact reputation are age, exclusivity, wealth, and small classes

size. Age is explained as a correlation between the value of an institution to its longevity. Older is supposed to be better. But, an institution cannot do anything about its age. Now we see several new forms of higher education institutions emerging and being embraced by the public. As previously mentioned, the characteristics and needs of the new students are quite different from the conventional student of the past. The age of an institution is no longer a criteria in the selection process for many of these new students.

Exclusivity of access is also equated with quality. Traditionally, universities required students to meet rigid entrance standards. The higher these standards, the better is the institution's reputation. That was then. Now exclusivity is out and inclusively is in. Exclusivity may continue to apply to the elite universities but inclusivity is encouraged with the majority of universities trying to meet the needs of today's education consumer.

Today, governments promote and support access for learners in their geographical areas. Since governments finance and regulate higher education, their recommendations cannot be ignored. Several Canadian task force reports have recommended a foundation of educational and social values that include increased access for learners in their geographical locations, choices for learners with high quality materials, and value for the investment by both government and student. This vision is articulated in Distributed Learning Task Force in British Columbia (Bizzocchi, 1997.p.10): "British Columbia's post-secondary distributed learning system will deliver high-quality post-secondary education, training, and support services where and when the learner needs them."

Technology is viewed as a cost-effective solution to increased access in developed and developing countries. Frequently, institution cannot afford to invest in large, physical infrastructure required for this technological change. However, investments for teaching cost-effectively are contrary to the third factor of days past as describes by Daniel.

The third factor, wealth, is attributed to the long tradition of kings, noblemen, industrialists and alumni wanting their memories to live on in the names of buildings, professional titles and chairs. Universities with lavish resources from endowments are perceived to be better. No wonder academics are reluctant to address this challenge. Hall (1991) thinks future universities may be much smaller or may not be located on a campus. The emergence of virtual universities and mega-universities challenge the old ways of raising money and providing recognition to benefactors.

The fourth factor is the ratio of smaller classes to faculty resources. This translates as a fear of reduced contact between faculty and student and was one of the first concerns voiced by faculty members at the MSVU senate table when the Open Learning program was introduced. Their fears were strongly contradicted in the Open Learning surveys and interviews I conducted between 1995 and 1997. Open Learning has only offered courses in small group scenarios. Survey results from both Open Learning faculty and students demonstrate that contact between faculty and student has increased compared to students' previous experiences in a classroom. The difference with distance students is that the interaction is frequently more individual than in a group setting. The interaction patterns keep changing as e-mail, list serv, databases and the Internet are incorporated into the distance program. The question I ask is: Are these other forms of asynchronous communication being integrated in distance education or are they being integrated into the traditional classroom as well? I conclude that it is time to rethink the ways we measure the quality and intensity of interaction between faculty and student.

The Mount, similar to other universities, has prided itself on maintaining a reputable standard using a common yardstick. These four factors emphasize again how the time and space of education are changing. Age, exclusivity and wealth of an institution are not the criteria used by many of today's lifelong learners in selecting an institution. Perhaps we need a new yardstick. Indeed, they are no longer the criteria

used by government in allocation of resources (Reuber, 1996). Therefore, what will happen at the Mount if we do not respond to the government pressures? I believe our challenge is to 'rethink' our role for the future and, in the process, question new ways of measuring quality.

The Impact of Technology

As we re-think how we measure quality, we cannot ignore technological pressures indirectly contributing to MSVU from the changing marketplace. A quick overview of higher education across Canada, and especially Atlantic Canada, over the last five years reveals new and different providers, due in part to technological developments and changing government support. The following highlights are from the CAUCE Deans and Director Institutional Reports for the spring meetings in 1997. Trends identified are as follows:

- Full and part-time credit enrollment is flat or declining; (e.g., University of Alberta, Laurentian, Laurier, Windsor and UNB).

- Tuition is up as much as 20%; (e.g., Laurentian University, Mount Allison University and Western).

- Distance education enrollment is increasing; (UBC, MSVU, UNB).

- Distance certificate and program offerings are increasing; (e.g., University of Alberta, UBC, McGill, Ottawa, St.FX, TUNS, Western, Sir Wilfred Laurier, U. Victoria and UCCB).

- Collaborative ventures are being pursued; (e.g., University of Alberta, UBC, Ottawa, Laurentian, Mount Allison, UNB, SMU, St. FX, TUNS, Western, Sir Wilfred Laurier, U. Vic and UCCB).

- The first indication of emerging mixed mode education was expressed by Mount Allison University as part of its fall 1997 plans, due to shortage in faculty resources. Daytime on-campus classes will be connected to students at distance sites for a joint course offering.

- Some of these institutions identified their most critical challenges as recognizing and providing training needs for the emerging professional and organizational clientele who seek quality and service. One essential step identified was the implementation of a user-friendly, one-stop point of entry.

- The above excerpts demonstrate the present-day shifting interest 'in' and 'planning for' distance ventures, often with other educational and industry partners

- Several of these universities did not have any distance offerings five years ago.

Growing Maritime Competition

Distance education is rapidly growing in the Maritimes (Nobes, 1996). Acadia University is on-line, advertising friendly personal service anywhere in the world with 80 correspondence courses on the WWW. The Acadia Advantage initiative is a series of partnerships with companies such as IBM Canada Limited, MT&T, and the Marriott Corp. of Canada to make Acadia the first in Canada to apply the resources of today's information technology to university education. Even with its technological growing pains Acadia is now out front in terms of marketing to the clientele of the next century.

In the past, Dalhousie University did not appear to be interested in distance education. In 1993-94, Dalhousie had four distance nursing credit courses. However, in 1995, Dalhousie announced a major strategic distance education plan on the Web, with sweeping changes across many disciplines with multi-mode delivery. Present developments include on-line Commerce courses, additional Environmental distance courses as a result of the Dal-TUNS merger, and a distance MBA in international banking.

Five years ago, there were no distance education offerings at UCCB. Today, students can complete two undergraduate degrees through distance education. With over 40 credit courses developed, UCCB is partnering with the Université de Moncton to develop bilingual offerings. They are working with the corporate sector (Pratt & Whitney) to develop partnerships in distance offering in such timely programs as Bachelor of Technology and Environmental Studies. Programs versus straight course offerings are contributing to this success.

In New Brunswick, multiple partners from the corporate and education fields have proposed the Eaton Multimedia Learning Centre (MMLC) (Nobes, 1996). It focuses on the current convergence of information technologies and educational needs both internally at UNB and externally in the Fredericton community, the Atlantic Region, Canada, and globally. Distance program funding is available in New Brunswick through Tele Education NB, *if* it includes *corporate* partnerships and a *web* component.

As Massy and Zemsky (1995) warns, nontraditional educational providers in corporate partnerships are filling voids for relevant education at a substantial cost to the student. Compu-College and InfoTech Institute in Halifax are becoming national education service providers. In Cape Breton, MacTech Education Services has approximately 800 students enrolled from across Canada and the US. Working in partnership with strong players such as IBM and MT&T, they are helping to construct the new world of cyberspace education (Partridge, 1996). Future plans include the take over of four trade schools in the US.

Credit Transfer

In Atlantic Canada, not only is there a significant growth of interest by other universities to be distance providers compared to five years ago, but pressure for credit transfer between institutions has increased. Recommendations for the future indicate that this pressure may increase even more. The Premiers of Atlantic Canada

requested that the first two years of undergraduate studies be available by distance by the fall of 1996. All member institutions of the Association of Universities and Colleges of Canada agreed in September 1995 to accept for credit all first and second-year courses from member institutions. December 1996 was the proposed date for acceptance of transferability of third and fourth-year university credits. Distance offerings for the third and fourth years are limited at MSVU. The Mount, once a recognized leader in this area is losing stride compared to the new pace of emerging competition.

Collaborative Ventures

As we consider a few of the challenges for MSVU, let us reflect upon a few examples of existing collaborative ventures. Cooperation and collaboration between education providers is proving to be advantageous for all concerned. MSVU is in danger of being outpaced by those institutions adapting more quickly to this change through collaborative ventures, effective use of technologies, and future planning. The advantages gained are outlined in some of the following examples.

In the United States, one of the most publicized examples, the Western Cooperative for Educational Telecommunications (WCET), has been actively involved in the planning of the Western Governors University. The WGU plans to offer aggregate courses from existing educational providers. Similar to the Open University in Australia, the WGU will call for education providers to supply courses rather than develop its own. Competency-based degree and certificate programs will be available by multi-technologies. WGU will provide a comprehensive source of information about courses and programs, but it will also provide additional services, including registration and both on-line and live advising services.

The Open Learning Agency, Contact North, Inter Universities North, University on the Miramichi and The Western Universities Telecourse Consortium are major examples of some Canadian consortia. The benefits derived from consortia efforts are increased student participation; shared overhead for space, personnel and equipment;

shared resources of courses; increased revenue; increased availability of materials, and easier access to credentials.

As mentioned earlier, in Atlantic Canada, a major collaborative proposal is being pursued. The Association of Atlantic Universities (AAU) (Barnsley, 1996) is seeking, through appropriate legislation, the authority to grant degrees, diplomas, and certificates. This initiative provides the opportunity for thousands of people who have already taken university courses to continue their studies by distance or on-campus from accredited institutions without fulfilling a residency requirement. AAU member universities are encouraged to concentrate on offering their specializations and avoid duplication of efforts and costs. Plans are being considered to establish the Atlantic Association of Universities Open Learning Accrediting Service under the authority and control of the AAU. If this materializes, the potential market will greatly increase.

There are many common threads of concern expressed by Canadian universities as they contemplate the future. The most significant thread is coping with reduced government financial support. On the other hand, governments are offering technological networks as one solution to the financial reduction. In conjunction, there is a new market of mature, professional learners seeking credit for previous experience and requesting relevant, work-related courses from providers globally. Once these lifelong learners have found the appropriate program, their selection criteria appear to be quality, service, convenience and flexibility. I believe the Mount can build on its existing strong foundation, but there is an urgency.

The Mount's Strong Foundation

The Mount is exceptionally strong in the areas of leadership, faculty, curriculum specialties and distance education. The president and senior administrators of MSVU are knowledgeable and informed leaders who have the support of the university community. During the past year, the new president worked to build consensus as

new university community issues arose. Daniel suggests that this management style may be a strength at universities as they plan, identify strategies, and build new teams in a culture of adopting technology.

Faculty members remain subject matter experts. Through the Open Learning experience, we now have a core of instructors with new expertise in course design. Their multiple roles as designers, writers, reviewers and facilitators of distance courses are an asset to be shared with others for future development in this new mode. They are well equipped to work with others in business and industry as resource people to develop customized training packages (Roberts, Rossiter, & Duncan, 1996).

The Mount has many specialty content areas or, in marketing terms, 'product niches', that are unique. Some are unique in Canada; others are unique in Atlantic Canada. The Open Learning statistics demonstrate that most distance education students are drawn from Atlantic Canada. Future enrollment looks promising if we offer more of these complete, specialty programs. Presently, offerings in areas such as adult education, gerontology and tourism are limited, but increased offerings in public relations, information management, women's studies and other areas of education could contribute to further uniqueness and registrations.

The Open Learning program has offered courses for five years. Growing public demand, returning students, and positive feedback within a climate of increased competition indicates that we laid the groundwork to bridge many of the lifelong learners' needs. Quality and technology remain two major challenges for the Mount as we address the future, but there is a good foundation on which to build. I suggest, not only that this foundation in Open Learning is acceptable, but also that mixed mode education could be a model for teaching and learning, both internally and externally, as we consider university renewal for the 21st century.

The Mount's Challenges

Small institutions like the Mount have limited resources. As I contemplate the vision for the next century, I ask what can universities like the Mount do to survive in the next millennium? I propose that a shift to mixed mode can be perceived as both a threat and an opportunity. It is new and requires a change of thinking in the academic culture, but it has demonstrated its strength of cost-savings and new pedagogy at MSVU. Therefore, I wonder how do we enhance this approach for the future.

I think we need to concentrate foremost on our strengths as a university community and collectively offer 'quality and service' in order to achieve what Pacey and Penney (1995) emphasize : that each person must understand their role and value within the learning culture. Only collectively working towards the same vision do we stand a chance of developing 'loyalty' and returning students. In other words, we must do what we do well. Regardless of the technological developments, the best advertisement is word of mouth, especially since we draw many of our learners from Atlantic Canada.

Every educational provider cannot offer all programs. Many providers already offer duplicating programs. How does a university like the Mount set itself apart, especially if students can choose from as smorgasbord of institutions for their courses? The smorgasbord may happen in Atlantic Canada sooner than we think. Once an institution agrees to break tradition, what choice do the other small institutions have but to follow? One suggestion, besides being the one to break tradition, is to provide students with a quality first-hand experience about which they will tell others and return.

We must ask ourselves how we can provide this quality and service. One good starting point is Blueprint '98, a strategic plan for the university's future, formulated with input from the university community. After the Blueprint '98 is approved and the implementation phase begun, I suggest the 'quality circle teams' created in the post-

industrial Japanese era may be worthy of consideration at MSVU. Many policies and procedures that need to be revisited need the holistic input from marginalized representatives in the university community. Flexibility in team composition was a key component of these quality circles. As consumers, we expect quality and service daily. To compete with the new wave of private delivery educational providers, we need to compete like an business- an educational business. This includes providing services such as one-stop shopping for admissions, registrations and financial requirements, personalized student support services, and recognition for life experiences.

Work has already been done by Daniel (1996), Pritchard (1995), Sedlak and Cartwright (1997), Haughey and Anderson (1997), and Robert, Rossiter and Duncan (1996), whose suggestions listed below hold promising considerations for the future.

- Offer total programs to guarantee some enrolment stability. Presently, most program offerings lack courses, especially Arts and Science courses.

- Increase credit transfer between institutions to assist in establishing partnerships with others for course development. If we do not have subject matter experts willing and able to support course development at the Mount, others universities may be able to assist.

- Work with collaborating institutions to offer a common core curriculum. Increasingly, government encourages providers to offer the first two years of a general art degree to local communities.

- Value students that are combining work and studies. It is a different psychological adjustment for traditional institutions, but the Mount has already made inroads in this adjustment with the acceptance of gender sensitivity. Not as much progress, however, has been made with regard to the acceptance of the time and space differences.

- Reconsider the marginalized role of distance education. Open Learning operates at the margin but not from a marginal perspective, and if we are to

create a holistic vision for the future, continual bridging is required within

the university community to further build integration and understanding.

If these authors are right, they lay the groundwork for concepts that could be

applicable to the Mount in the face of technological and pedagogical changes.

The Mount's Technological Challenges

A multitude of authors describe how society is on the cusp of a wave of

change brought about by communication technology advances. Tate (1995) says

technology is changing the way we learn. Pritchard (1995) describes how technology

is shifting the way consumers choose education. The role of faculty is reconfigured in

the Australian model (Prichard). In 1991, Hall imagined the use of the electronic

universities that are now a reality. New consortium models of universities, such as the

University of the Western Governors, are emerging.

What are the impacts of these technological trends on universities like the

Mount? I think the Mount needs to decide if technology is to be integrated into edu-

cation generally or viewed from the periphery of distance education, and if so, what

elements of subject areas are suited to this methodology.

Technology Access and Support

Our challenges, like those of so many others universities, are 'the access and

support' for technology. Access can come in several forms. First, there is access to

financial resources to purchase equipment. Second, learners and educators do not

know these alternatives exist or how to properly access equipment. In Nova Scotia,

promotion and awareness regarding these alternative modes of education are weak.

Once accessed, learners and educators need training and support to use technology.

Often, in distributed site linkages, educators must rely on volunteers to help with this

support. In many cases, they have not received proper training. At the university level,

there is an equal need for this community to have training and support for using technology. Consider a few suggestions from the literature.

Few institutions are in a position to design and implement modern, sophisticated network solutions for large number of users (Tate, 1995). Thus, the need for partnerships is necessary and inevitable.

As stated earlier, Open Learning could not provide some of the present course offerings without the support of an infrastructure such as Network NS. Open Learning cannot move professionally forward on the Internet and WWW development without outside partners. As we explore partnership opportunities, it is evident that the two are inextricably linked. As long as the goal of educational access is supported by industry providers, all will benefit and grow.

Bates (1995b), Roberts, Rossiter, & Duncan (1996) state there are no sole solutions or one super technology. Each medium is unique and all have strengths and weaknesses. Combining media or a multi-media approach provides opportunities to accommodate the different learners' learning styles and the varying needs of the content. Technologies need to be judged on their educational and operational qualities (Bates, 1995b). Formative evaluations are recommended early in the instructional cycle with technology so changes in pedagogy can be made if necessary (Roberts, Rossiter & Duncan,1996).

Student access to technology is rapidly changing. Many students enter university with a level of comfort with technology higher than that of their teachers. Many students of the future will bring or purchase their own equipment. They will expect the university to provide access to software from the networks. It appears that universities have no choice but to supply the basic technological requirements, but student numbers are critical to offset the costs of this investment (Bates, 1995b). The Mount is not alone in this struggle.

Steve Gilbert of the American Association of Higher Education (aahesgit@list.cren.net) describes recent trends in educational technology and changing conditions on campuses as the 'support service crisis'. On May 12th, 1997, he noted that his earlier predictions on the support services crisis were a timid underestimation of what is happening in most institutions. He describes several symptoms, including:

- Rapidly widening gap between resources and faculty and student expectations;

- Technology support services personnel are often overworked and overstressed;

- Faculty cannot get the help needed to move ahead with technology; and

- Faculty and students need more help from librarians and faculty development professionals.

These implications are felt strongly at a small university like the Mount as we struggle to provide support services in conjunction with the provision of computer technology and Internet access. The issues and cost associated with the 'Third Revolution'(Rifken, 1995) are unprecedented in the life of most higher education institutions.

The Mount's Pedagogical Challenges

Correspondence, extension and distance education have traditionally had low status within a university system (Daniel, 1996). I consider Open Learning distance education not only acceptable but a model for traditional courses development and delivery. If education is fundamentally about dialogue and reflection (Bates, 1995a), distance education helps frame and establish educational dialogue in two significant ways: first, the print base, and second, the interaction. Daniel states that distance education no longer has a distinct and common pedagogy. According to him, "The

pedagogy of synchronous remote-classroom teaching resembles the pedagogy of classroom teaching more than it resembles the pedagogy of asynchronous correspondence teaching."

Do the basic principles of pedagogy change from one mode of learning to the other? Are not discussion, feedback and critical thinking the needs of all learners? What are the best possible tools to achieve this transformative learning? Have we come full circle with the intertwining of distance and the traditional classroom? Is the mixed mode of program delivery of benefit to the institution, faculty and the learner? Let us look at a few of the pedagogical issues in the literature associated with these questions.

Interaction

Interaction with teachers and learners is essential for effective learning (Bates, 1995b). Dialogue through the use of multi-media is essential in the third generation of distance course design (Kaufman, 1989). Technology is now an integral part of the instructional process and according to Wagner (1990), there is interest in shifting newer educational technologies from the periphery to the centre of teaching. Educational components used to include teacher, learner and curriculum. Today, there is another component: technology (Welton, 1997). This is a common concern for all educators, whether on campus or at a distance. Two frequent issues that arise in the literature is the rigidity of print materials and whether or not dialogue with technology is real.

Print Packages

Looking more closely at the print materials, Menzies (1994) challenges that educational packages can be perceived as a 'commodity to be consumed' rather than an educational experience grounded in a real culture. A host of authors refer in a negative terms to distance providers as importers and exporters of education. I agree with Menzies regarding to the need to value cultural sensitivities if materials are

shared with other countries, but I believe that the generic subject matter can be a sound foundation and offers many advantages to less developed countries. One noteworthy example was Russia's request for educational assistance from the Open University in the UK in 1995. It came at the same time as the country experienced a decline in communism. Since the OU had the basic courses and expertise, their learning materials were customized for this culture.

Open Learning at the Mount has been both an importer and exporter of materials to the benefits for all institutions involved. This approach was highly recommended in our initial research for Open Learning, more cost-effective, and exemplifies Haughey and Anderson's (1997) suggestion to, 'adapt versus create.' With transfer of credits between institutions, is this not a recognition that a large percentage of the content is similar? Is the sharing of course materials that much different than having several professors on-campus using the same textbook to teach a course? Do the professors not add their own voice as they teach on-campus? Did not André Grace add his voice as he taught the adult education students using the Open Learning materials developed by another writer?

Shift in Faculty Roles, Relations and Practices

All of this print base contributes to looking at a different way of teaching and a different role for faculty. Bates (1995b), Roberts, Rossiter & Duncan, (1996), and Tate (1995) all note that faculty tend to suffer a lack of support and financial or time rewards for participation in technology-based education or redesign of a course. Faculty members are encouraged to research but not to write distance materials. They have no standards or guidelines for teaching with technology at this early stage. If we accept this shifting, then faculty roles will have to be defined with less emphasis on classrooms and more emphasis on possible new roles for faculty.

A newer role for faculty members is to become part of course design teams, as I have already shown to be essential. Content experts cannot be expected to have the

expertise to revise a classroom course for teaching with technology. Working as team members for content development can be a new role for faculty and often entails giving up control (Roberts, Rossiter & Duncan, 1996). Frequently, faculty in a traditional classroom had complete autonomy over the course content. In this team process, a variety of resource people can be involved in course design and delivery.

Another faculty role that requires re-thinking concerns student and faculty contact time. Traditionally, faculty taught courses a set number of weeks with a set number of hours per week in the classroom. If students receive well structured materials with clear objectives and work independently during the week, contact time as a group is frequently shorter, both in number of weeks and length per week. A different type of dialogue may continue during the week using technology. Rather than the traditional lecture, students and faculty are engaged in a seminar discussion as a group. E-mail, list serv, voicemail and telephone are used for individual contact. Again the distinctions between the faculty time for traditional and distance modes are blurred.

Dialogue Questions

This leads back to the question of the value of the dialogue with technology. Is it real dialogue or not? How can applications of communication technologies provide the catalyst and the means for active and deeper learning? The debate of fostering meaningful interaction both in traditional and on-line environments is active and rampant both in the literature and on-line. It appears that more research into best practices in this area is just beginning.

Menzies (1994) indicates that technology is used for "information production and consumption, not dialogue." Technology can certainly be used this way, but is that any different than an instructor lecturing a large group of students? Face-to face is certainly powerful and generally preferred but has classroom education not been a combination of face-to-face, telecommunication and independent work? The face-to-

face meetings range from the early tutorials to large lecture. Asynchronous telecommunications date back to correspondence and written assignments. Independent work has been guided through reading, research and laboratory experiments. In the last few years, communication technologies have provided a rapidly increasing variety of options for changing or enhancing the combinations of the past but many people are not ready to consider the potentials. The following anecdote highlights what is probably a traditional view of many on-campus faculty.

Steve Ehrmann, in a distance learning strategies workshop with Arts and Science faculty from the University of San Francisco, described how some faculty saw the campus world and networked world as adversarial. Some faculty claimed, "True academic and spiritual community can only be created through face-to-face interaction." In his workshop, Ehrmann outlined how participants experienced a transition in thinking in two ways. First, they acknowledged that one institution cannot afford all the resources its people might need, nor can all faculty and students be on campus at one time. Second, thinking changed as the participants shared stories of two dying colleagues who had used the Internet to remain part of a supportive, living community as life neared its end. Gradually, the lines between on-and off-campus were eroded as the participants explored what activities could best be done on-campus and what might be done adequately or better off-campus.

This story highlights for me some of the transition I have encountered with faculty, students and administrators as we all try to understand the rapid changes we are encountering in teaching with technology, while at the same time we try to preserve quality, value and integrity. All education is at a distance. All education uses some form of technology.

Summary

There is not a single pedagogical solution, but I do believe the Adult Education faculty at the Mount have fostered meaningful dialogue in a combination of ways. This includes face-to-face, synchronous, and asynchronous communications. Since Open Learning learners vary in background and learning styles, individual learners can approach the same materials differently based on their unique learning styles. With this open approach, Open Learning faculty and students have worked within a 'fluid not rigid' structure- a combination of print, and personal and technological interactions. I offer my assessment as one way to consider challenges for the new millennium.

The challenges for small universities like the Mount are enourmous. Challenges include access, support and academic upgrading for all learners in their own location. Declining enrollments and increased tuitions are forcing higher education institutions to consider collaborative ventures and partnerships. The popular perceptions of university quality are barriers to change and thus need to be revisited. The changing role of faculty from knowledge provider to knowledge facititator needs to be rethought. Can the appropriate use of technology add quality to the teaching and learning experience and help universities overcome some of today's barriers?

Chapter Five

Open and Distance Education in the Future

Introduction

In this chapter, I focus on a few issues that are associated with the mixed mode approach at smaller universities but that exist within the new global paradigm. Working on the assumptions that there is value in the concept of mixed-mode education and that there is value in the third generation of open and distance education course design or 'knowledge media' (Daniel, 1996), my examination leans towards some of the holistic trends that small universities need to re-consider in these changing times. These issues are not specific to either conventional or distance education but are intertwined as I move to consider the big picture of higher education.

While writing this thesis, the words of the song, "What a Difference a Day Makes" kept coming to mind. For this thesis, that title could be modified to "What a Difference a Decade Makes!" While reflecting on the past decade, I also wonder about the decade ahead. Throughout my thesis, I have touched on several trends in higher education that are frequently less than a decade old. As educators prepare for the decade ahead, over half of the world's population will live most of their lives in the twenty-first century. How will these people be educated?

In this chapter, I examine the progression of some of these trends, and some of the questions they raise for small institutions considering their role in the next century. The trends and questions are addressed from the holistic perspective that small institutions are experiencing an institutional and pedagogical blurring due to technological convergences. To me, one issue is no longer the question of conventional or distance education. Rather, the question is the effective integration of technology into our educational systems, and I wonder — how we are to foster deep learning. Another issue is the shape of the future university, and I wonder if we can weave the present

traditional, rigid, exclusive and closed system into a fluid, inclusive, modern and open system. If we do, what will the new learning community be like? If we do not, what will happen to the present day small higher education institutions? Will many be replaced by other providers? There are many, many questions to consider.

Considerations for Small Universities' Role Within the Global Picture

Education helps to improve the quality of life and reduce poverty. In 1997, 1.1 billion children in the world are without education and books (Negroponte, 1997). If we are to keep up with this educational demand, we need to create a new campus every eight days (Daniel, 1996). Since this is not economically feasible, the World Bank, as one concerned provider, is focusing on building systems that use technology to achieve its mission of investing in people. One example of this is the Knowledge Bank (http//www.world bank/org./children). This system is possible due to communication technology developments but according to Miller and Sellars (1985) it brings to the surface many interesting educational tensions.

Globalism and Regionalism

First, tensions exist between globalism and regionalism (1985). It is understood that developing countries need educational assistance, but whose curriculum do you provide? In what language? Whose culture is reflected in the curriculum? As we watch this global interdependence grow, we also witness growing interest in cultural and ethnic identification and preservation. Menzies (1994) warns us that as education is transformed more and more into a commodity, there is a greater need to preserve culture and base education in community life. As global educational opportunities explode, major questions arise about what is to be the role and contribution of small universities.

Independence and Interdependence

A second tension noted by Miller and Sellars (1985) exists between centralized and decentralized decision making. This trend in education in Canada is felt particularly at the political and economic levels. Educational systems are being restructured. One example in the Halifax Regional Municipality is Metro rationalization. Another is the federal government review of national and provincial funding formulas.

Reuber (1996) states, "Universities have little or no control over both their revenue and their expenditures" (p.42). On the revenue side, universities do not know if enrolments for the upcoming year will increase or decline at the same time that their tuition fees are dependent on government grants. On the expenditure side, universities usually sway to the side of caution and do not incur the extra cost of human resources in anticipation of these unknowns. In both cases the institutions must wait until the academic year is well underway before determining their financial position. It is a difficult way to conduct business.

Reuber suggests that a challenge for universities of the future will be to regain their 'independence and autonomy.' Thus, we are witnessing a trend toward privatizing tuition, as evolving in several examples previously stated in this thesis, especially that of the MBAs- perhaps because some institutions appear more explicit in this mandate than others. If this assumption is correct – and it certainly appears to be a risk – how can small universities afford to privatize?

Countering Reuber's view, I think the challenge for universities is to maintain identity within the trend towards 'interdependence'. Interdependence is happening in many forms. Universities such as the Western Governors consortium are pooling courses to collectively offer programs. Corporations are working with subject matter experts from universities for training. AT&T is a leader in a global distance learning initiative involving eight countries (ICDE, 1997). Corporations need education partners the same as universities need corporate support.

In September 1997, The Canadian Education Industry Summit is scheduled to meet in Toronto. The purpose of the conference is to introduce the "education industry" to the financial community in order to provide the latter with compelling reasons for investments in the education industry. The North American education industry is described by summit organizers as a $700-billion industry. They suggest that investors are eager to commit significant capital to the for-profit segment of this industry.

Distance education is one of the opportunities included in this summit agenda. As we have seen with examples such as the Open University UK, some of these new initiatives exist within the original university framework, and others, facing too much resistance, will have to create a new identity. I include this example because the educational summit members suggest that the shift from public to private delivery agents will continue either as partners or as new providers. The resulting manifestations for small universities are dramatic or the number of new educational providers is exploding. Small universities have difficult choices to make as they struggle with their vision for the 21st century.

Historically, it has been acceptable for small institutions to eagerly solicit funds from alumni, but it was not as acceptable to partner with the corporate sector. But I ask: Does something like the Educational Summit provide opportunities that small institutions can afford to miss in light of the financial and political trends today?

A Few Unresolved Global University Issues

No matter how closely I try to view the implications for small universities, I continue to wonder about the big picture. I question if small institutions can survive serving local markets only, especially in light of present political and economic influences. I feel it is wrong to avoid thinking about the role of small institutions within both the local and global picture. If small institutions are part of the global market, many unresolved issues either directly or indirectly must affect these institutions.

Quality Assurance

Quality assurance, an issue of monumental concern in academic circles, is starting to be addressed globally from both the academic and corporate world. In 1996, the Global Alliance for Transnational Education (GATE) was founded as a medium to address issues of quality assurance for educational programs which cross national borders (GATE, 1997). The founders of GATE include world-wide educational leaders plus corporate giants such as the Coca-Cola Company and Jones International Ltd. USA. The mission includes exploring issues associated with the mobility of credentials and academic credits; providing access to global networks and information on educational offerings; developing principles of good practice; and recognition of world class education and training. To me, it is striking to note the alliances created for these global issues.

Standardization and Accreditation

The Commonwealth of Learning (COL) is leading two quality assurance initiatives. The COL, established by the Commonwealth Heads of Government to encourage the development and sharing of open learning and distance education resources and technology, has developed guidelines for students selecting distance courses outside their jurisdiction and guidelines to assist institutions in collaborating for course development and delivery (Communiqué, 1997). Their development of policies and procedures will enable receiving institutions to make judgments on courses from other providers. While we struggle in Atlantic Canada to accept credit transfers from among our neighbouring institutions, the COL proposes to establish a "Commonwealth credit bank." I ask: Do small universities want to be included in this global trend towards quality assurance? Is there a place for small universities with unique programs? Or are small universities too small to be considered? If so, do they in fact, have a role in the global marketplace?

Communication Technology

Communication technology tools continue to change daily in complexity, capacity and compatibility. It is difficult to predict how small universities will be able to teach even a decade from now as we witness the convergence of multi-media. With the tremendous growth in technology infrastructure, there is a growing need for international technological standards. In conjunction with standards is the expressed need for research and identification of best practices in teaching and learning. But I ask: Can small universities walk the technology road alone? If not, how will they meet this expressed need of the workforce and continue to attract the new learners?

Communication technologies provide the capacities for new international relationships with students, classes, institutions and corporations. As some might consider the loss of identity with globalism, others point out that learners can gain increasing respect for others as people share views from other communities, countries and cultures. I ask: Is this shared learning something small universities value? Can they provide a similar learning experience on-campus? Is this one of the benefits of broadening our student base?

Classrooms and Curriculums

In the modern era, single-mode institutions could afford to be exclusive and insular. Classes held in a set space were conducted by faculty members who had control over their intellectual property. Gradually, classes moved into the adjacent communities and regions as dual-mode institutions which offered both conventional, continuing and distance classes. Inventions such as telephone, radio, transportation and television brought synchronous distance education to the community. Classrooms changed from one room including all levels of education to single rooms with each level of education, all conducted within the local community. In the post-modern era, the changing time and space of mixed-mode education, either asynchronously on-line or synchronized at distributed sites, creates a new picture. Presently, converging

technologies enable people to link individually or collectively with a global community. I ask: How do small universities adapt to the new time and space of hybrid classrooms? How are faculty members supported for their use of new technologies? How are faculty issues, the definition of teaching load for example, evaluated in light of the different combinations of real and virtual communication?

In conjunction with this explosion of information, available at our fingertips, the myth of the expert teacher is fading (Munitz, 1997). One faculty, one discipline or one institution cannot be the source of all knowledge in one field. If faculty members are to integrate technology into their teaching, the team approach to course development offers collective expertise either within or among institutions. The public demand for interdisciplinary courses is leading to the creation of new degrees. Faculty can contribute to this pool of resources with courses. But I ask: How are small institutions going to recognize the changed role of the instructor? How will their intellectual property be valued?

The many unresolved issues are only briefly described in order to point out the significance and complexity of a few of the challenges for small universities as they plan strategy for the 21st century. These shifts are disturbing, creating confusion and unbalance in organizations that have traditionally responded slowly to change. Conversely, the shifts provide new opportunities, new ways of thinking, new ways of educating and opportunities to forge new partnerships. While the change process is difficult, I ask: Do not the ultimate results depend on the attitudes and perceptions of the university community? Haughey (1996) claims that communication technologies are providing a thrust to force higher education changes that cannot be stopped. If she is correct, I ask: Can small institutions embrace this change and be leaders in renewed modes of education? Has not the role of educators always been one of questioning and challenging? Is it the role of adult educators to learn their way out of challenging situation?

Summary

A Bright Open and Distance Light

Daniel (1996) argues that the convergence of computing, telecommunications and the cognitive science as knowledge media is the third generation of distance education course design. He highlights several common concerns for conventional and distance education and suggests that knowledge media could help universities address these new challenges. In the process, he notes that a large percentage of the world still relies on print and correspondence materials. The longevity and reliability of print closely matches text characteristics of new computer technology programs and merit attention. New technologies have the potential to blend knowledge and community through virtual and real conversations. Not only can richness in instruction and inter-action be achieved, but there is more access to resources than ever before.

At MSVU, the graduate adult education faculty and students experience this richness through the mixed-mode approach of Open Learning. On-campus and dis-tance students are combined for a one-way course offering. Location is irrelevant as they technically link for weekly seminar discussions. Using specially prepared print materials and synchronous and asynchronous communication, the faculty and students embrace and enhance the third generation distance course design principles of Open and Distance Education. To me, it is an educational model with enormous potential for higher education in the future.

As the fog clears, small universities must launch a rocketship into another academic year, and into the millennium. How will they do it? I ask: Why not point first to one small university adapting to change and recognize the excitement of em-bracing teaching along with technology and sharing the benefits with others, internally and externally? Celebrate those that choose to say 'Why not!' to the new frontier.

Chapter Six

Implications for Mount Saint Vincent University

Introduction

Mount Saint Vincent University is on the verge of its 125th anniversary. These 125 years have seen tremendous changes both in society generally and education specifically. The institution changed from an academy run by the Sisters of Charity to educate girls as teachers, to a corporation educating males and females in twenty-nine disciplines. It has also undergone changes in the perceptions of student needs, appropriate curricula, teaching styles and technological tools. Over this period of time, the institution operated with a variety of forms of financial support. I should not expect the next 125 years are going to be any different. The institution shall have to change to reflect new changes in society. Occasionally, I wonder if there will be an institution 125 years hence. If so, I wonder how it will be supported, who the students will be, what disciplines will be offered, and what will be this institution's role within the Nova Scotian context.

In this final chapter, I return to take a closer look at the implications at MSVU of a number of issues in this thesis. Although I discuss these issues under the three headings used in the thesis, of blurring in technology, pedagogy and institutionality, the categories and the debates probably also gets blurred as the issues interlock.

Institutional Shifting to a Mixed Mode

Fallow and Robinson (1995) state that the mixed mode can be perceived as a threat; however, in reality, it offers tremendous opportunities to universities that adopt this approach. The graduate adult education program used a mixed mode approach to

large geographical area, were seeking education so they could provide further education to their colleagues in education, health, community and economic development. The results produced a powerful synergy for students, faculty and administrators as multiple forms of communications were incorporated into the program.

Fallow and Robinson also suggest that the mixed mode is an efficient way to maximize resources of people, premises, student and staff time. These are some of the same challenges facing the Mount in this period of rationalization. If MSVU embraces and advocates this mixed mode shift, there are potential benefits as well as concerns. For example:

- Space – Linking students from several distance sites or at home, shifts the principal location of study from the university premises. This could reduce some of the overall space pressures on the university.

- Class Time and Space – Student in mixed mode classes use distance materials, generally previously prepared lecture materials. The students require less class/group contact time since lectures are presented in advance; they work independently. With less class time required, this reduces pressure for classroom space. Classes using this mode cut classroom time requirements in half. While costs in premise resources are saved, costs are incurred by the purchase or production of course materials.

- Small Classes – Sometimes MSVU does not have adequate enrolment in either a conventional or distance course. Small conventional classes, combined with a few distance students, can result in an efficient use of human resources for the institution by preserving course offerings that might have had to be cancelled in either or both cases due to low enrolments. If courses of low class enrolment are offered as a result, the university benefits. Student receive the course they require, faculty are employed, the institution maintains enrolment, and a program continues.

Student receive the course they require, faculty are employed, the institution maintains enrolment, and a program continues.

- Subject Matter Expert – Students and faculty could gain access to national and international subject mater experts. Experts that institutions usually could not afford to bring to a campus could be accessible via technology.

- Diversity – The mixed mode combination of conventional and distance students provides all students a broader range of views. The students may be all ages, working and not working from a variety of countries and cultures. Shared worldviews and respect is increased as a diverse group of people learn from each other.

- Convenience – The mixed mode, like open and distance education, contributes to increased study options for people with physical disabilities, small children, irregular work schedules, and other lifeworld limitations. At the same time, it can increase university enrolment.

Integrating Communication Technology into Pedagogy

Garrison (1997) in *Computer conferencing: The post-industrial age of distance education*, suggests that computer conferencing places greater emphasis on social context and interaction in the construction of personal and public knowledge. The constructivist approach to constructing meaning and validating understanding is possible through a variety of advances in communication technology. Computers and now computer networks such as the Internet and the WWW provide cost-effective, sustainable communication in synchronous or asynchronous time. Garrison states that computer conferencing has the potential to radically reshape learning at a distance. Just as the printing press radically changed teaching in the past, I believe computer networks are the cusp of a wave that shall change teaching for the future, regardless of the form of the hybrid classrooms of the future.

conferencing. Audio-conferencing sowed the seed of the post-industrial technologies in open and distance education (Garrison, 1997). Computer conferencing represents another significant link to enhance learning capabilities. The WWW transformed computer conferencing from a single media of text to a multimedia environment. With the Web, learners can share references, photographs, sound recordings, e-mail, shared environments of chat rooms and virtual reality environments. At present, there is limited evaluation on the relationships of the multiple forms of interactions, but I cannot help but think that this variety in communication options complements the recognitions by Myers (1980) and Briggs (1979) that people prefer to learn in different ways. Teaching using the new multimedia technologies complement the variety of learning preferences.

Using these new methodologies results in new implications for the university. For example:

- Faculty – By embracing teaching with advanced technology, faculty teach differently. Faculty may no longer lecture. Group synchronized discussion time is less then the traditional lecture approach; it may be half the time presently scheduled for weekly classroom lectures. But their interaction time with students is also different. Responding to e-mail, voice mail, and participating in listserv groups in addition to written feedback on assignments requires a different assessment of faculty workload. We need a new yardstick.

- Student – Shifting from a teacher-centered, telling-listening approach to a learner-centered experience requires students to be more responsible. Students need to articulate their goals and expectations if they are seeking relevant learning. Many mature students are very specific on expressing their needs. Is this responsible approach healthy? It fits the expressed needs of employers seeking employees who think critically and creatively in these

rapidly changing work environments. How do we recognize the new student and employer needs?

- Curriculum – This educational requirement for meaningful and worthwhile learning may be disturbing to faculty who are used to controlling a set curriculum. The growing trend for a more flexible curriculum appears unavoidable as the students' smorgasbord of course options grows. One institution cannot offer all options, and if one resists discussion concerning course flexibility in choices, students may simply choose courses elsewhere.

- Technology – Which subjects are best suited to a print base? What technologies are appropriate for teaching the course? What are the benefits to students? If faculty want to integrate technology into teaching, what support exists for faculty to make this happen? How is the preparation time recognized? We need new ways of centralizing technology into teaching.

Garrison suggests there is value to the students participating in both the spontaneity of the verbal computer conferencing discussions and the reflective, precision of written communication that is consistent with higher order thinking and cognitive development. If critical discourse is feasible in a variety of combination such as face-to-face and computer-conferencing, what is preventing us from exploring and sharing these rich options with our students?

If some of the answers to these complex questions come back to resources, maybe it is time to reconsider the examples of other Canadian educational providers. If you recall, many are planning collaborative ventures and partnerships with both the corporate sector and other higher education institutions. Why? Maybe the initial infrastructure costs were a factor. Maybe they acknowledged that we can no longer provide all things to all people. Maybe it is time to reconsider how we support the institutions of the future.

In closing, as I reconsider all the reading for this thesis, one of the most salient points to me was the change in thinking at Mount Allison University. According to MacLean Magazine, one of the highest ranked, traditional universities in Canada is moving to mixed mode this fall. Five years ago, they had a few scant correspondence courses with no interaction. They skipped the second generation of distance education and, four years ago, they joined the TeleEducation NB consortium and received funding to develop distance materials on CD ROM. Since that development, they delivered courses with other educational providers of the consortium to distance students at the University on the Miramachi. Now, due to lack of sufficient human resources, they are offering courses in a mixed mode this academic year. If it is acceptable with one of Canada's leaders, is it not acceptable at the Mount? Consider how this university is facing the challenges for renewal of the campus with distance education.

I suggest that it is not only acceptable at MSVU but, as distance leaders, our model should be shared with others. Educational supporters, such as MPHEC, need to know. It is one small way our university is coping with diminishing resources in troubling times. At the same time, we have faculty with 'new teaching with technology' experience to honor and serve as role models to others, both internally and externally.

Summary

I argue in this thesis that, during the last decade, the Open Learning Program at MSVU experienced a transitional shift to the third generation of open and distance education due in part to recent advances in communication technologies. The convergence of telecommunications, television, and computing is producing a multimedia environment for distance education that is unprecedented. This shift has enabled a revolution in distance course design which has increased the control of the learner, the degree of dialogue, and the depth of thinking skills (Kaufman, 1989).

This transformation to the third generation of open and distance education empowered faculty members and administrators to offer courses one-way only, as a combination of distance materials and methods with the conventional on-campus class. When courses were offered in this mixed approach, the institution progressed, using Fallow and Robinson's terminology (1995) from being a dual-mode to a mixed mode institution. The distinction between distance education and the traditional class-room blurred.

There are several critical incidents that contributed to these shifts to the third generation of distance course design in the Open Learning Program and to the evolution of the institution to mixed mode. They are as follows:

- Course development teams, often formed by complete departments, contribute not only to the course materials but to a holistic understanding of the Open Learning concept.

- Print materials are the foundation of this program, similar to many distance programs, and can be adapted to new technologies such as the WWW. The written word will remain a foundation in the near future for less developed countries.

The first sign of mixed mode occurred when MSVU faculty requested the use of the print materials for their on-campus students. The first sign of the third generation occurred when weekly seminar discussions were incorporated into distance courses with audio teleconferencing and audio-graphic teleconferencing. The mixed mode was incorporated with the introduction of the Graduate Adult Education course offerings through the Open Learning Program. The openness of the adult education faculty, their integration of several modes of technology with the pedagogical approach, and the needs of today's learners resulted in this institutional shift. The convergence of learning and cognitive sciences with computing and telecommunications technologies, also termed, 'knowledge media' (Daniel, 1996) and not available a decade ago, provides a medium for conversation and community similar to university.

Technology holds many challenges and opportunities for higher education institutions. The greatest challenge for universities appears to be in rethinking their role within the new paradigm. The era of lifelong learning and flexible educational providers are disruptive to the traditional, rigid system of the past. Difficult adjustments are required if higher education providers are to meet the demands for a more fluid, inclusive system. The learners of today have the control. They can choose programs, technologies, and institutions. The opportunity is there for higher education to respond, and knowledge media will help universities respond. This is uncharted territory, but I believe it offers great opportunities for the future of universities.

Bibliography

Alley, L. R. (1996, March / April). Technology precipitates reflective teaching: An instructional epiphany. Change, 49-54.

Amirault, C. & Smith, D. (1988). A review of open /distance learning programs, recommendations for a distance learning program in tourism and hospitality management. Halifax, NS: Mount Saint Vincent University.

Barnsley, R. , Beckett, B., Bell, A., Brown, K., Crossley, J., Desjardins, L., Dodds, C., Driedzic, W., Gillis, H., Grant, J., Hobson, D., Ingalls, W., Richmond, I., Skanes, G., Tugwell, M., Tuinman, J., Visentin, L. (1996, September). Atlantic Canada universities open learning accrediting service. A proposal for the Council of the Association of Atlantic Universities. AAU Telelearning Committee.

Bates, A. W. (1995a). Creating the future: Developing vision in open and distance learning. In F. Lockwood, (Ed.), Open and distance learning today, 42-51. London: Routledge.

Bates, A. W. (1995b). Technology, open learning and education. London: Routledge.

Belenky, M. F., Clinchy, B.M., Coldberger, N.R., & Tarule, J.M. (1986). Women's ways of knowing: The development of self, voice, and mind. New York: Basic Books, Inc.

Bizzocchi, J. (1997, May). The development of British Columbia's post-secondary system policy on distributed learning environments. In Communiqué 12, (3 & 4) p. 10. Ottawa: CADE.

Briggs, L. J. (1979). Instructional design: Principles and applications. Englewood Cliffs, NJ: Educational Technology Publications.

Brookfield, S. (1986). Facilitating self-directed learning. In S. Brookfield, Understanding and facilitating adult learning. (pp. 60-89). San Francisco: Jossey-Bass.

Brown, J. S., & Duguid, P. (1996, July / August). Universities in the digital age. Change, 11-19.

Brown, S., Nobes, C., & Sampson, R. (1995). Human resource development in tourism through open learning: An Atlantic Canada example. In D. Seward (Ed.). One world, many voices: Quality in open and distance learning, 1, (pp. 51-54). 17th world conference for distance education: Birmingham, UK.

Burge, L. (1995). Electronic highway or weaving loom? Thinking about conferencing technologies for learning. In F. Lockwood (Ed.). Open and distance learning today. (pp. 151- 163). London: Rutledge.

Burge, L. (1996). Technology and learning: Finding the balance. In G. Taylor (Ed.). Learning for the workplace: Nordic and Canadian perspectives. (pp. 48-56). Helsinki: KVS Institute.

Canadian Labour Force Development Board (1993, June). Report of the task force on labour adjustment. (CLFDB No. 11). Ottawa: Canadian Labour Force Development Board.

Close, J., & Martin, C. (1996, Sept./Oct.). New frontiers? The Internet as a teaching tool. Higher Learning, 9-10.

Connections – A news publication of the commonwealth of learning. 2 (2) 1997, April. Vancouver: COL.

Cooper, S. E., & Miller, J. A. (1991). MBTI learning style-teaching style discongruencies. Educational and Psychological Measurement. 51, 699-706.

Council of Ministers of Education, Canada (1995). Distance education and open learning: A report - December 1994. Occasional Paper n° 1.

Cropley, A. J., & Kahl, T.N. (1983). Distance education and distance learning: Some psychological considerations. Distance Education, 4 (1), 27-39.

Daniel, J. S. (1996). Mega-universities and knowledge media: Technology strategies for higher education. London: Kogan Page.

Darkenwald, G. G., & Merriam, S. B. (1982). Philosophy and adult education. In Adult education: Foundations of practice. New York: Harper & Row.

Dick, W., & Carey, L. (1978). The systematic design of instruction. Palo Alto, CA: Scott, Foreman, and Company.

DRI Canada, Atlantic Provinces Economic Council and Canmac Economics Ltd. (1994) Atlantic Canada: Facing the challenge of change. A study of the Atlantic economy for the Atlantic Canada Opportunities Agency. Toronto: McGraw Hill.

Evans, T., & King, B. (1991). Beyond the text: Contemporary writing on distance education. Geelong, Victoria, Australia: Deakin University Press.

Evans, T., & Nation, D. (1992, June). Theorising open and distance education. Open Learning, 7, 2.

Fallows, S., & Robinson, K. (1995, July 3 - 5). Teaching and learning tensions in a mixed mode university. In A. Tait (Ed.), Putting the student first: Learner-centred approaches in open and distance learning. Collected conference papers (pp. 45-50). Open University East Anglia, Cambridge, UK.

Farrell, G. M., & Haughey, M. (1986). The future of open learning. In L. Mugridge, & D. Kaufman (Eds.), Distance education in Canada (pp. 30-35). London: Croom Helm.

Field, L., & Ford, B. (1995). Managing organizational learning: From rhetoric to reality, (pp. 10 - 25). Melbourne: Longman.

Garland, M. R. (1995). Helping students achieve epistemological autonomy. In D. Seward, (Ed.), One world many voices: Quality in open and distance learning. 2 (pp. 77-80). 17th world conference for distance education: Birmingham, UK.

Garrison, D. R. (1997, June). Computer conferencing: The post-industrial age of distance education. Open Learning, 12 (2).

Gates' $1.38b deal a boost to Canadian cable companies (1997, June 10). The Halifax Mail Star p. C6.

Gilbert, S. (1996, March / April). Double visions — Paradigms in balance or collision? Change, 8-9.

Gilbert, S. (1996, March / April). Making the most of a slow revolution. Change, 10-23.

Gilbert, S., of the American Association of Higher Education aahesgit@list. cren.net

Grace, A. (1997, April 16). Personal interview.

Hairston, E. (1996, March / April). A picaresque journey: Corporate change, technological tidal waves, and webby worldviews. Change, 32-37.

Hall, J. W. (1991). Access through innovation: New colleges for new students. New York: American Council on Education/MacMillan Publishing Company.

Hanton, J. & Labelle, S. (1996). Multimedia is the future of human interaction an educational seminar, Toronto: General DataComm.

Harris, D. (1987). Openness & closure in distance education. Philadelphia: The Falmer Press, Taylor & Francis Inc.

Harris, D. (1991). Towards a critical educational technology in distance education. In T. Evans, & B. King (Eds). Beyond the text: Contemporary writing on distance education (pp. 204-225). Geelong, Victoria, Australia: Deakin University Press

Harvey, D. (1992). The condition of postmodernity. Cambridge, MA: Blackwell.

Haughey, M. (1989). Involvement with distance education: Issues for the university. In R. Sweet, (Ed.), Post-secondary distance education in Canada. Athabasca University/ Canadian Society for Studies in Education. pp 161-169.

Haughey, M. (1995). Distinctions in distance: Is distance education an obsolete term? In J. M. Roberts, & E. M. Keough, (Eds.), Why the information highway? (pp. 2-14). Toronto, ON: Trifolium Books Inc.

Haughey, M. (1996). Convergence possibilities and problems for the post-secondary sector. In K. M. Manohar (Ed.), Prof. G. Ram Reddy commemorative volume distance education theory and practice, II. (pp. 132-150). Hyderabad, India: Open Learning Society.

Haughey, M., & Anderson, A. (1997). Networked learning: The pedagogy of the Internet. Toronto: McGraw-Hill.

Hawkridge, D. (1995). The big bang theory in distance education. In F. Lockwood (Ed.), Open and distance learning today. (pp. 3-12). London: Routledge.

Hein-Nieminen, I., (1995) The postmodern learning environment. In Seward, D. (Ed.). One world many voices: Quality in open and distance learning, 2, (pp. 250-253). 17th world conference for distance education: Birmingham, UK.

Holmberg, B. (1986). Growth and structure of distance education. London: Croom Helm.

Holmberg, B. (1995). Theory and practice of distance education (rev. ed.). London: Routledge.

Hughes, S. (1997, April 30) Union condemns MT&T as company reveals profits, jobs. The Mail Star, pp. A1-2.

International Council for Distance Education (ICDE), (1997, June 2 - 6). The 18th world conference. Penn State.

Inglis, A., (1995). Towards a dialogic theory of tele-education. In D. Seward (Ed.). One world many voices: Quality in open and distance learning, 2, (pp. 364-367). 17th world conference for distance education: Birmingham, UK.

Kaufman, D. (1989). Third generation course design in distance education. In R. Sweet (Ed.), Post-secondary distance education in Canada (pp. 61-78). Athabasca, AB: Canadian Society for Studies in Education.

Keegan, D. (1990). Foundations of distance education. (2nd ed.). London: Routledge.

Kidd, J. R. (1956). A century of growth. Adult education in the Canadian university. Toronto: CAAE.

Knowles, M. (1980). What is andragogy? The modern practice of adult education: From pedagogy to andragogy. New York: Cambridge Books.

Koul, B. N. (1995). Trends, directions and needs: A view from developing countries. In F. Lockwood, (Ed.), Open and distance learning today, (pp. 23-31). London: Routledge.

Landstrom, M. (1997, May) Employing new technologies in education: Skill implications. Communiqué, 12, 3-4.

Lawrence, G. (1984). A Synthesis of Learning Style Research Involving the MBTI. Journal of Psychological Type, 8 (4), 2-15.

Maguire, P. (1987). Doing participatory research: a feminist approach. Amherst, MA: The Center for International Edfucation, School of Education, University of Massachusetts.

Maslow, A. (1976). Education and peak experience. In C. D. Scholsser (Ed.) The person in education: A humanistic approach. New York: Macmillan.

Massy, W., & Zemsky, R. (1995, December 19). Using information technology to enhance academic productivity. Internet available: http://www.educom.edu/program/niii/keydocs/massy.

McCaulley, M., & Natter, F. L (1974). Psychological (Myers-Briggs) type differences in education. Gainesville, FL: Center for Applications of Psychological Type.

McNaughton, P. (Ed.) (1997, March). Technology & adult literacy. Connect, 1, (1).

Menzies, H. (1994). Learning communities and the information highway. Journal of Distance Education. IX (1), 1-16.

Merrill, M. D., & the ID$_2$ Research Group (1996, May/June). Instructional transaction theory: Instructional design based on knowledge objects. Educational Technology. 36 (3), 30-37.

Metro Halifax Universities Consortium. (1995, November 17) Metro Halifax Universities Consortium Business Plan. Halifax, NS.

Mezirow, J. (1990). How critical reflection triggers transformative learning. In J. Mezirow (Ed.) Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning. San Francisco: Jossey-Bass.

Miller, J. P., & Seller, W. (1985). Curriculum perspectives and practice. New York: Longman.

Moore, M. G. (1990). Contemporary issues in American distance education. Oxford: Pergamon Press.

MSC. (1984). A new training initiative, Sheffield, UK, Manpower Services Commission cited in D. Rowntree (1992), Exploring open and distance learning, London: The Open University.

Mugridge, I., & Kaufman D. (Eds.). (1986). Distance education in Canada. London: Croom Helm.

Munitz, B. (1997). The new educational paradigm. In International Council for Distance Education (ICDE), (June 3). The 18th world conference.

Myers, I. B. (1980). Gifts differing. Palo Alto, CA: Consulting Psychologists Press.

Myers, I. B., & McCaulley, M. H. (1985). Manual: A guide to the development and use of the Myers-Briggs Type Indicator. Palo Alto, CA: Consulting Psychologists Press.

Naisbitt, J. (1982). Megatrends. New York: Warner Books.

Negroponte, N. (1997). Changing technological environment. In International Council for Distance Education (ICDE), (June 2). The 18th world conference.

Nobes, C. (1996). Leading or lagging: Five years ago a leader, five years hence...? Unpublished report. Mount Saint Vincent University, Halifax, NS.

Nobes, C., Uhl, N., & Sampson, R. (1997, June). The interaction of cognitive styles with teaching and learning methods for open learning students. In The new learning environment: A global perspective. The 18th World Conference June 2 - 6, 1997. Abstract p. 248.

Oblinger, D. G. (1997). High tech takes the high road: New players in higher education. Educational Record, 78 (1), 30-37.

Ong, W. (1982). Orality and literacy. London: Methuen.

Pacey, L. M., & Penney, W. P. (1995). Thinking strategically: Reshaping the face of distance education and open learning. In J. M. Roberts, & E. M. Keough (Eds.), Why the information highway? (pp. 15-39). Toronto: Trifolium Books Inc.

Partridge, K. (1996, August 11). MacTech puts human touch into distance education. Nova Scotia Business Journal, p. A8.

Payne, C. R. (1995, July 3 - 5). Should distance education be learner-centered? A critical case history. In A. Tait (Ed.), Putting the student first: Learner-centred approaches in open and distance learning. Collected conference papers. Open University East Anglia, Cambridge, UK. pp 146-153.

Peters, O. (1994). Introduction. In D. Keegan (Ed.) Otto Peters on distance education: The industrialization of teaching and learning. London: Routledge.

Pirard, L. (1997, July) Senior MT&T employee. Personal interview.

PLA centre set up in shopping centre (1996, Summer). Canadian Association for University Continuing Education. Ottawa: CAUCE.

Plumb, D. (1994). Time and space in adult education: The dimension of domination and resistance in modern and postmodern times. Calgary, AB: University of Alberta.

Pritchard, A. L. (1995, December). Open learning Australia: An overview and possibilities for the future. In ABCD (121) .

Reddy, G. R., (1990). Distance education: Planning for the future. (Keynote address) In M. Croft, I. Mugridge, J. Daniel, & A. Hershfield (Eds.), Distance education: Development and access. Venezuela: International Council for Distance Education.

Reuber, G. L. (1996, November) The university in the 21st century. Policy Options, 41-45.

Rifkin, J. (1995). Technology, jobs and your future: The end of work. New York: G. P. Putnam's Sons.

Roberts, J. M., & Keough, E. M. (1995) Why the information highway? (pp. 239-260). Toronto: Trifolium Books Inc.

Roberts, J. M., Rossiter, J. R., & Duncan, S. (1996, November). Lessons from the lifelong learning on the information highway^{tm} Series: Renewing the focus on learning. Canadian Association for Distance Education Communiqué. 12, (1), 1-15.

Robinson, R. (1992, January) Andragogy applied to the open college learner. Research in Distance Education. 4, (1), 10-13.

Schön, D. (1983). The reflective practitioner: How professionals think in action. New York: Basic Books.

Schachter, S. (1997, April). Meeting the corporate demand for quality in human resource management. GATE, 1.

Scott, S., & Dinsmore, P. (June, 1997). Buss word: Convergence. Canadian women in communications (pp. 1 & 4). Toronto: CWC-AFC.

Secretary of State Canada, Open Learning Agency of British Columbia, and Canadian Studies Directorate (1989). Open learning and distance education in Canada: Canadian studies resource guide, Ottawa, ON: Minister of Supplies and Services Canada.

Sedlak, R. A., & Cartwright, G. P. (1997, January / February). Two approaches to distance education: Lessons learned. Change, 54-56.

Silver, H. F., & Hanson, R. J. (1982). Learning Styles and Strategies. Moorestown, NJ: Hanson Silver & Associates, Inc.

Sweet, R. (Ed.). (1993). Perspectives on distance education student support services: Towards more responsive systems. Report of a symposium on student support services in distance education. Vancouver, BC: The Commonwealth of Learning.

Tampa Tribune (1997, July 3)

Tate, R. G. (1995, Winter) At the crossroad: Higher education and technology development. Technos, 4 (4), 26-30.

Trachtenberg, S. J. (1996). Universities must learn to face the challenges of distance learning. Remarks at International Distance Learning Conference (IDLCON) on March 24, 1995 Washington, DC:

Uhl, N. (1996, October 25). Personal interview.

Verduin, J. R. Jr., & Clark, T. A. (1991). Distance education: The foundations of effective practice. San Francisco: Jossey-Bass.

Wagner, E. (1990). Looking at distance education through an educational technologist's eyes. The American Journal of Distance Education, 4 (1), 53-68.

Welton, M. R. (Ed.). (1995). In defense of the lifeworld: Critical perspectives on adult learning. Albany, NY: SUNY Press.

Welton, M. R. (Ed.). (1996). Great new instruments of adult education. Introduction to adult education: Historical perspectives. Halifax, NS: MSVU.

Welton, M. R. (1997, April 16). Personal interview.

Young, M. (1995, February). The prospects for open learning. Open learning, 3-9.