AN INVESTIGATION OF LIFELONG LEARNING IN THE CONTEXT
OF TRADITIONAL EDUCATIONAL POLICY AND PRACTICE

by

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A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy
Department of Theory and Policy Studies in Education
Ontario Institute for Studies in Education of the
University of Toronto

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ABSTRACT

The investigation examines the post-secondary educational system in Canada to determine its ability to provide a viable service to lifelong learners.

The writer considers that the lifelong learning movement is already profoundly affecting the beliefs, theory, and practice of traditional education.

Drawing on his experience as an adult educator, and through communication with policy-makers, administrators, faculty, and students in traditional and non-traditional post-secondary educational institutions, the writer concluded that an interpretive view of the field of lifelong learning could be obtained by addressing four general questions, namely:

1. What is the importance of lifelong learning to society and the individual?

2. How relevant is the educational system to the needs of the lifelong learner?

3. What influence is lifelong learning having on the principles and practice of teaching?
4. What role can distance education and technology play in the facilitation of lifelong learning?

These questions form the basis of the investigation, which involves an examination of the philosophical, methodological, and political aspects of lifelong learning and traditional education.

The investigation reveals that lifelong learning possesses a uniqueness of philosophy and method which traditional education, as presently constituted, is unable to accommodate without far-reaching systemic changes.

Many of these changes are identified, analyzed, and evaluated in the course of the study.

Distance education and educational technology are extensively explored in view of the prominent part they play in the lifelong learning movement.

Twenty-six Recommendations have been derived from the investigation. These Recommendations, if expeditiously implemented, might do much to further the development of a unified lifelong learning system.
ACKNOWLEDGEMENT

This investigation has involved the co-operation of many people: university and college administrators, colleagues, associates, and lifelong learners, all of whom have shared with me their ideas, perceptions, and opinions on lifelong learning.

I am much indebted to my Thesis Committee, and especially to my Supervisor, Dr. Ian Winchester, and my Advisor, Dr. George Geis, for the insightful comments and suggestions unstintingly given throughout the course of the investigation.
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CHAPTER 1

Introduction

In 1973, The International Commission on the Development of Education, under the chairmanship of Edgar Faure, published its report entitled "Learning To Be," considered by many educators then, and now, to be a seminal work. The Report asked such questions as: Can the educational system satisfy the world demand for education? and, Is it possible to pursue the development of education by using traditional methods? The Report noted that "... the idea of lifelong education is the keystone of a learning society" (UNESCO, 188). Questions like these are still being asked, and during the more than twenty years since the Faure Report was published, prescient educators and others have written and spoken about the need for the implementation of lifelong learning as a system and as a culture. Suggestions and recommendations have been made, yet we still do not have an integrated framework for a lifelong learning culture.

The Report of the Ontario Task Force on Lifelong Learning in 1994 asks us to regard lifelong learning as a key link between educational and economic strategies, and expresses the view that we do not all practice it, we are not prepared for it, and not all accept it as desirable or necessary (130:3).
Lifelong Learning needs to be intermeshed with the existing educational system. This is not a simple task because "...to create a culture of lifelong learning some of our long-held attitudes about education and training will have to change." (ibid., p.8). Resistance to such change - any change - is to be anticipated; however, not all resistance is bad, and not all change is good. It is the nature of change and how far-reaching it needs to be, that is important, and is one of the concerns of this study.

Education is currently being driven to respond and adapt to the information revolution, a revolution that has affected every facet of society and has made lifelong learning imperative. Lifelong learners are with us now. In institutions of higher education they are more diverse, older, and more likely to live off-campus than students of a decade or so ago. If the growing constituency of lifelong learners is to be served efficiently and accountably, technology will play an increasing role in the lifelong learning movement, particularly as access to computer networks increases where students live and study.

Recognizing this, the Canadian federal government announced in February 1995 that it is investing $52 million over four years to expand School Net, the electronic service now linking 4000 Canadian schools to the information highway. It is claimed that this expansion will benefit other users, including universities (28:11). However innovation in
education implies not only new technologies but also new methods, systems, and relationships. Fundamental philosophical and methodological changes in education are being sought; some have already been adopted, such as Problem-based Learning, Personalized System of Instruction (PSI), and FLEX-ED.

The Canadian federal government's plan for Canada's prosperity: "Inventing Our Future," 1992, stresses that there needs to be a commitment to providing learning opportunities with more choice of alternatives about how, when, and where to learn (26:35). This is clearly a call for a more flexible approach to learning whereby the student exercises a measure of control over his/her learning.

Independent study and autonomy in learning are to be found in PBL, PSI, and FLEX-ED. These represent, in varying extent, methods in which students obtain information for themselves, in contrast to the traditional classroom paradigm.

Transferring all or part of the responsibility to the student for his/her learning is educationally viable, as many studies have confirmed. The traditional classroom mode is unsustainable in the context of the needs and numbers of lifelong learners. Education in the formal traditional mode has become a very expensive means of achieving learning objectives and, as Thomas points out, it can handle only a part of the learning that contemporary society both demands and stimulates (176:33).
The thesis will show that there is persuasive evidence that the traditional beliefs and practices of education do not suffice in addressing the needs of the lifelong learner. Lifelong learning has to be an overall scheme aimed at restructuring the educational system, as well as developing the educational potential outside the traditional system (UNESCO, 189:72).

The Report of the Commission of Inquiry on Canadian University Education, 1991, states the belief that the universities in Canada are fundamentally healthy (Association of Universities and College of Canada, 4:14). However, this is a view not wholly shared by all segments of academia. Reference to both positions is made in the thesis.

The quandary of trying to assess what the outcomes of education really should be and how to achieve them are issues highly relevant to the movement advocating lifelong learning and the introduction of a lifelong learning system.

The evidence points to such a system's being a practical proposition only through the use of innovative non-traditional methods. Yet this, too, has its opponents: those who favour the conserving, or careful modification of, traditional approaches to adult learning.

In the chapters that follow, arguments for various positions will be presented and interpreted.
Statement of the Problem

Educational systems in Canada and the United States are having to face the fact that growing numbers of adults are engaging in lifelong continuing education. The challenge that this trend represents is creating major concerns in terms of delivery methods, operational costs, and credentialling.

Traditional institutions of higher learning serve youthful learners primarily, preparing them by full-time study for professional life. Adults differ from younger learners in their interests, learning skills, and learning needs. Furthermore, since most are employed, going to school full-time is out of the question. This situation points to the need for institutions of higher learning to adapt and broaden their role, moving from their current position of independence to some type of close, inter-institutional co-operative arrangement on a nation-wide basis. The need for, and feasibility of, such change should be explored, but before this can occur, a deeper understanding of what lifelong learning involves and requires has to become widespread.

The salient problem, and the one which the thesis will address, is the disordered state of affairs that represents the present status of lifelong learning and the lack of objectivity by its proponents and detractors. Much of the existing knowledge about it is diffuse and undeveloped, and opinions differ widely about the validity of some of the non-traditional methods that are claimed to facilitate learner
independence and improve the productivity of the learning process.

Before a grand design can be developed for the implementation of a national lifelong learning movement, the philosophical, functional, and financial ramifications must be investigated and disseminated.

The Purpose

The thesis seeks to provide a synoptic view of the field of lifelong learning; its philosophy, methodology, and legitimacy. It will do so by interpreting the writings on, and the opinions about, lifelong learning through the focus of four main and twenty-one subordinate related questions. Not only will this clarify what the concept of lifelong learning encompasses, it will also reveal many of the strengths and weaknesses of current educational practice as it endeavours to respond to the growing population of part-time lifelong learners.

It is anticipated that the investigation will be helpful in the planning of lifelong learning strategies, as well as suggesting paths for future detailed inquiry.

The Method

Engelhart believes that the investigation of almost all problems in Education should originate with administrative, instructional, or counseling personnel. Nevertheless, he concedes it is possible to stimulate interest in a particular line of research by the researcher offering problem
suggestions for in-depth investigation to the institutional leaders (57:42-43). In so doing, the researcher assumes that decisions as to which problems should be most immediately and productively investigated can reasonably be made by the administration of the educational institution. This is the approach taken in the development of this investigation.

I have been involved in post-secondary education for thirty years, as a teacher and later as an administrator. During my tenure as Vice-President of the University Without Walls International Council (UWWIC), I was closely associated with policy-makers and practitioners in the field of non-traditional education, particularly distance education. As a result of this experience, I became aware of the difficulties inherent in developing a lifelong learning system. My various discussions about lifelong learning with UWWIC members and other colleagues (cf Appendix 3) led to the identification of four areas of common concern, which I framed as four general questions:

1. What is the importance of lifelong learning to society and the individual?
2. How relevant is the educational system to the needs of the lifelong learner?
3. What influence is lifelong learning having on the principles and practice of teaching?
4. What role can distance education and technology play in the facilitation of lifelong learning?
From these four general questions a series of related subordinate questions (cf Appendix 1) emerged, which provided the basis by which the thesis topic could be informatively addressed.

To obtain confirmation that these questions were ones sufficient upon which to base my investigation, the four main questions and twenty-three sub-questions were sent to the presidents of twenty institutions of higher education (ten universities and ten community colleges) across Canada (Appendix 2). They were invited to review them and to indicate their opinions as to the questions' validity, and to make such modifications or additions as they considered necessary. Six of the universities and five community colleges responded. Each substantially confirmed the validity of the questions and sub-questions. In the thesis, two sub-questions (#'s 22 and 23 on the questionnaire) were dropped because of lack of substantive information on the topics. Some respondents provided extensive supplementary information. This valuable additional input made a substantial contribution to sharpening the focus of the investigation. This phase of my research methodology may be regarded as being comparable to the pilot stage of orthodox qualitative research.

The validated questions provided the framework for the collecting and synthesizing of information obtained from government, corporate, and academic sources, from interviews
and correspondence, from published and unpublished scholarly work, as well as from observation and personal experience.

Clearly, the broad scope and subjective nature of the investigation render inappropriate the use of statistical and other methods of inquiry common to some types of qualitative research. Not all problems in education can be answered by factual inquiry alone (57:470). Therefore, in the thesis I have called upon my own experience to assist in the probing and interpretation of the observations, conclusions, and beliefs of others. On occasion, I interject subjective evaluative comments where I feel my experience qualifies me to question or commend other studies in the domain of lifelong learning. This is consonant with the philosophical mode of research in education.

It was decided that for this investigation a philosophic stance should be maintained rather than concern with minutiae, which would inhibit the synoptic view the work purposes to achieve.

Limitations

The focus of the investigation is almost exclusively on the university. However, it should be borne in mind that there exists the so-called "shadow educational system," comprising the military, corporations, professional associations, and certain non-profit organizations, which must be regarded as significant elements of a lifelong learning system. Therefore, the conclusions and recommendations
arising from this investigation cannot be considered as being applicable to all the populations or conditions that might reasonably be included in the totality of a lifelong learning movement.

The Consultations before and during the preparation of the thesis were intended to replicate the focus group approach to information gathering, but I found them to be characteristically deficient in providing specific information; hence the corroboratory use of the questionnaire.

Here and there throughout the investigation and the preparation of the thesis, I found myself sitting on the fence concerning certain issues, ones for which there is no real knowledge base and those which are clouded by speculation. In such cases, I have limited myself to describing the environment and context of the issue, leaving it to the reader to draw whatever inference his or her personal philosophy or perspective might suggest.

The Organization of the Thesis

The thesis has been chapterized to bring together the sub-questions that are concerned with the aspects of lifelong learning that the chapter headings indicate. From Chapters 2 through 7, the constitutive elements of lifelong learning are reviewed and interpreted, namely:
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At the end of the response to each sub-question, a brief summation is given in which the main points of the answer are highlighted.

The Comment at the end of each of Chapters 2 through 7 interprets the chapter in the context of its heading.

In Chapter 8 (The Four Main Questions Revisited) the responses to all the sub-questions (Chapters 2 through 7) serve as a data base upon which I draw in order to respond to the four main questions. The final chapter (9) includes a list of twenty-six recommendations that the investigation has engendered. These are followed by a concluding comment.

The thesis is, in effect, a comprehensive review of the literature on lifelong learning. It has been organized to allow this to be achieved interpretively, as well as treating a number of relevant issues that emerged from the investigation.
The organization of the thesis is most easily explained by means of the following diagram:

- **CHAPTER 1**
  - The Four Main Questions

- **CHAPTER 2 - CHAPTER 7**
  - Each chapter has a general heading under which twenty-one related sub-questions are treated.

- **CHAPTER 8**
  - The Four Main Questions Revisited

- **CHAPTER 9**
  - Recommendations and Concluding Comment
CHAPTER 2

The Need for Lifelong Learning

Sub-questions:

I. What is the distinction between Continuing Education, Adult Education, Recurrent Learning, and Lifelong Learning?

II. What are the features which distinguish non-traditional from traditional education, and what is the relationship of Lifelong Learning to non-traditional education?

III. What pressures are the evolutionary forces in society imposing on the educational system and what, if any, are the recommendations for responding to them?

IV. What are the problems associated with maintaining professional competence, and how may they be alleviated?
I. What is the distinction between Continuing Education, Adult Education, Recurrent Learning, and Lifelong Learning?

In order to distinguish between continuing education, adult education, recurrent learning, and lifelong learning, we need firstly to define "education" and "learning" because the terms are sometimes regarded as being synonymous.

Jerold Apps sees learning as the activity of the person who learns, and that such activity can take place anywhere and at any time. He maintains that learning can take place incidentally through involvement in virtually any purposeful activity, or it can be a planned, deliberate act. One is to understand that the planning may or may not be undertaken by the learner personally; an external provider agency can be involved. He defines education as "...organized and planned activity with the intent that learning will result." (1:64).

It follows, then, that an individual who independently organizes and plans his/her personal learning activity is engaging in self-education. However, education is generally regarded as the function of an educational system or other agency providing educational services. Thomas says that to learn is to do something to yourself; to educate is to do something to someone else (176:17). Educational providers usually do not engage the learner in the organizing and planning of educational services.

The literature confirms that adult learners are typically autonomous, meaning that their learning is substantially self-directed.
The field of adult learning is a wide one and provides for avocational studies such as those conducted under the aegis of the Elderhostel movement; upgrading courses for professionals; retraining programs; and basic education, including literacy and numeracy skills. In recognizing this span of learning activity, Apps observes that the term "Adult Education" does not sufficiently distinguish between each of the activities. He notes that the general perception of Adult Education is that of basic education - implying a "catching up" process (1:73).

Coolie Verner sharpens the definition of Adult Education as follows:

Adult education is a relationship between an educational agent and a learner in which the agent selects, arranges, and continuously directs a sequence of progressive tasks that provide systematic experience to achieve learning for people whose participation in such activities is subsidiary and supplemental to a primary productive role in society. (Apps, 1:68)

The Accrediting Commission of the Continuing Education Council gives the following definition of Continuing Education, which also falls within the purview of adult education:

.... the further development of human abilities after entrance into employment or voluntary activities. It includes in-service, upgrading and updating education. It may be occupational education or training which furthers careers or personal development. Continuing education includes that study made necessary by advances in knowledge. It excludes most general education and training for job entry. Continuing education is concerned primarily with broad personal and professional
development. It includes leadership training and the improvement of the ability to manage personal, financial, material and human resources. Most of the subject matter is at the professional, technical and leadership training levels or their equivalent. (Apps, 1:69).

Finally, "Lifelong Learning," which is becoming accepted as a comprehensive description of the whole field of adult learning, was defined in the 1977 revisions of the 1965 U.S. Higher Education Act as follows:

Lifelong learning includes, but is not limited to, adult basic education, independent study, agricultural education, business education and labor education, occupational education and job training programs, parent education, post-secondary education, pre-retirement education and education for older and retired people, remedial education, special education programs for groups or for individuals with special needs, and also educational activities designed to upgrade occupational and professional skills, to assist business, public agencies, and other organizations in the use of innovation and research results, and to serve family needs and personal development. (Apps, 1:68).

In this investigation, the term "lifelong learning" has been chosen as the one most illustrative of the problems being addressed. Lifelong learning includes the use and development of formal and informal learning opportunities and resources both within and outside of the generally accepted boundaries of traditional educational activity.

Lifelong learning is synonymous with "recurrent learning." Both concepts imply a decreasing distinction between education and work, and a less structured, more flexible learning environment. Maudsley has shown that learners select learning experiences or courses individually.
according to their needs without commitment to a full-time program. It is at this level that most continuing learning occurs. (Ontario Ministry of Education/Colleges and Universities, 127:19). The purpose of lifelong learning is therefore closely linked to employment proficiency with a shift in emphasis from the acquisition of certificates and degrees to the holding of employment.

It has been stated that lifelong learning should capitalize on learners' experience and enlist their active participation at all stages of the educational process in which they are involved. Furthermore, the actual or potential value of adults' experiences should be given academic weight. (UNESCO, 189:4).

Lifelong learning is not programmatic, rather it is problem-oriented. Neil comments that adults are most interested in studies linked to their own work and life experiences, as opposed to abstract academic theories (116:86).

This kind of learning cannot be pre-planned in the orthodox sense. Learners study what they need to know in order to solve their problems. Neil puts forward the view that lifelong learners seek "know how" more than knowledge, and that they have to learn how to recognize and formulate a problem, how to connect it to the world of more general knowledge, how to select what is needed to be learned, and how to judge their own progress (116:82-83).

This view might be criticized on the grounds that
education implies more than "know how" - purely instrumental knowledge - a point that Neil himself makes.

Alan Thomas emphasizes that learning takes time (176:12). While this statement may be regarded as axiomatic, the further claim by critics that a bona fide educational program is characterized by systematic learning and dialogue between teacher and learner, is arguable (Neil,116:78).

In its recommendation on the development of adult education, the Canadian Commission to UNESCO takes a more encompassing view of lifelong learning by saying that for the full development of human personality, particularly in view of the rapid pace of scientific, technical, economic, and social changes, education must be considered on a global basis and as a lifelong process (UNESCO, 189:1).

II. What are the features which distinguish non-traditional from traditional education, and what is the relationship of Lifelong Learning to non-traditional education?

Over the years, the word "education" has become synonymous with the schooling of young people who attend an educational institution full-time. Employed mid-career individuals seeking to improve their knowledge or upgrade their credentials have found difficulty in discovering programs with admission requirements, course curriculums, and timetables to suit their learning needs and life schedules. Further, while part-time study at a college or university has provided an acceptable alternative for some adult learners,
others find the curriculums restrictive and, in many cases, the requirement of virtually starting from scratch a daunting prospect; the latter particularly so when the individual has acquired a significant level of employment-derived and other expertise. A less traditional approach to the education of these people is clearly indicated.

Originally, the primary objective of non-traditional education was to reach out to those already in the work force, to women, minorities, and the physically handicapped, and to offer them a viable means of expanding or acquiring knowledge and qualifications. However, today we observe many non-traditional ideas and practices permeating education in general, sometimes complementing and sometimes replacing traditional methods.

The Report of the Commission on Non-Traditional Study (1973) entitled "Diversity by Design" sees non-traditional education as an attitude that puts the student first and the institution second, encourages diversity of individual opportunity, and de-emphasizes time, space, or even course, requirements, in favour of competence and performance (40).

Non-traditional education might be regarded as an attempt to add a legitimate alternative to existing methods. This is not meant to imply that traditional, formal approaches are no longer valid or appropriate - they have their context - but rather that alternative approaches may be equally so.
Strictly speaking, the non-traditional has always co-existed with the traditional in education at all levels, since innovation is, and will continue to be, an ongoing activity, responding to the prevailing currents created by contemporary cultural, economic, and political forces.

Adams says that "(there is a) conflict of expectations between preservation and innovation (that) creates a kind of schizophrenia for higher education." (Hall, 70:8). Some may not see it this way, arguing that the condition is natural and transient, since on the continuum of societal progress that which is non-traditional eventually becomes absorbed, thus creating new tradition - the concept of progressive conservatism!

Improved access to degree programs, coping with financial pressures, accommodating new technologies, challenges to elitism, assuring relevance of curriculums are elements of the non-traditional movement in post-secondary education. All, or some, can also be found in more conservative institutions of higher learning. However, the archetypical form of non-traditional education is exemplified by the University Without Walls (UWW) concept, which was introduced in the U.S.A. in 1971 under the aegis of the Union for Experimenting Colleges and Universities. The Union comprised a network of fourteen institutions which, while generally subscribing to the UWW concept, retained their own individual approaches. The features of the UWW doctrine are:
Life and work experience is evaluated for degree credit. This implicitly recognizes that there are numbers of learning opportunities and resources, both formal and informal, available in educational institutions, work settings, and via professional associations. Additionally, independent study and reading, plus social interaction, contribute to, and enrich, the learning experience. It is considered an axiom that equivalent learning (to that established for elements in a degree program) should be formally recognized for degree credit, regardless of how or where it was obtained.

Credits granted for work and life experience serve as an accelerant to the attaining of the learning objective, usually a degree, and ensures that relevant learning for which competence can be, or has been, demonstrated does not have to be repeated.

Individualization of Learning focuses on the matching of the learning program to the unique background and goals of each participant, and the self-direction of the student's own program of studies. The intended outcome is the development of increased trust in one's own decisions and skill in autonomous learning. Individualized learning is
intrinsically non-competitive and substantially self-paced.

* The learning program is evaluated by others in terms of its balance of theoretical and practical learning and the use of a variety of learning methods. The program should lead to skills in critical thinking, written and oral communication, increased career competence and job potential, and the development of lifelong learning habits.

* A one-on-one Faculty Advisor-student relationship where the student has a mentor relationship in a climate of mutual trust. The student receives time and attention, and has experience with a non-judgmental, supportive person who is a potential role model.

* Use of community as a Learning Resource involves understanding community systems, widening learning options, meeting new people, networking, building self-confidence in seeking one's needs. The goals are the gaining of knowledge of the academic world as well as the employment environment, and to become a communicant in both.

* Non-stringent admission criteria permitting ease of access to higher education opportunities to people in full-time employment, and under-
served populations. Dropping out is destigmatized. Pre- and post-admission counseling is emphasized since it is recognized that adult students need to build confidence through trial and success episodes in their learning plan.

* Use of adjunct faculty as resource persons. Professional persons engage in counseling, instructing, and evaluating, particularly in the context of students' field experiences during their program.

* Non-campus institutions (discussed later in this investigation) as exemplified by the Distance Teaching University (DTU) and open college. These institutions bring educational services and support to the student via the mail and/or electronic means.

These characteristics, although substantially representing the University Without Walls concept, are now to be found in whole or part, or in modified form in many traditional institutions. The distinction between traditional and non-traditional education is thus becoming less evident as time goes on. The Distance Teaching University is an example of a non-traditional concept that, in less than a generation, has become no longer a novelty but a universally recognized institution, outstanding examples of which are Athabasca University in Canada, The Open University in the United
Kingdom, The University of South Africa, and Fernuniversitat in Germany.

Part of the philosophical underpinning of non-traditional education is the still-controversial recognition of life experience and non-collegial learning. It is the availability of this credit that is a major incentive for enrolling, since it shortens the time required to complete a degree and therefore saves money. These are two important considerations given adult learners' time constraints and financial resources. However, under the aegis of the Prior Learning Assessment movement currently receiving serious consideration by long-established institutions of higher learning, the rigidities in perception as to what is or is not a credit-worthy learning experience are being challenged.

The philosophic antecedents that have given rise to the different educational styles and modalities now categorized as non-traditional are not novel. Many have their origins in the ideas of Rousseau and, later, of Dewey. Rousseau argued for a less intellectual, more person-centred and experience-based concept of education. He maintained that education should allow for learning through experience. Dewey's more sophisticated view stressed the active role of students and the need to cultivate personal freedom and autonomy through the school's providing an appropriately democratic environment. These ideas presage the educational environment for the lifelong learner. Logically, he/she needs to be, or
become, self-directed and autonomous - a significant shift from traditional thought and practice. It follows, then, that lifelong learning will be, for a time at least, non-traditional, functionally and philosophically.

III. What pressures are the evolutionary forces in society imposing on the educational system and what, if any, are the recommendations for responding to them?

These pressures have been variously identified as: Providing education and training for employment in a climate of rapid technological advance; coping with financial constraints; developing linkages with business and industry; and creating a lifelong learning culture.

**Technological advance:** According to the reports of different task forces, issuing from federal and provincial government sources, the education system is not responding adequately in terms of productivity of highly trained human resources in the face of technological advance. The economic health of the country is widely believed to be threatened by this deficiency. The context and dimensions of the issue are described in the government of Canada's Action Plan entitled "Inventing Our Future" (1992). This document charges that Canada is becoming less competitive compared with other countries, and gives the following indicators of this slippage:

We are not applying new technologies as well as our competitors.

Too few of our companies provide training for their workers.

We spend more per capita on education than other
leading industrial nations but results are not what they should be.

Too many adults are permanently sidelined by a lack of skills. (26:1).

We have to presume that these sombre conclusions have been convincingly validated. Each is significant and represents an indictment of the policies and processes extant in our educational system.

In 1991, the government of Canada's Consultation Paper: "Learning Well ... Living Well" made the critical comment that "Most Canadians, both in the classroom and at work are not getting the level of skills and training they want and need. By comparison with many other industrialized countries our human resources are underutilized." (24:v).

What is the cause of this seeming tardiness to be "up and running" one may ask? Over the years, business, industry, and educational institutions have been organized to function in a stable, rather than a changing, environment, and I suggest that this has therefore entrenched traditional practice and the preservation of the status quo. Thus it has become apparent that the educational policies and systems that served in the past are not adequate for present and future needs. Yet there is much of value that should neither be forgotten nor discarded. The pressure for change in the system, particularly the universities, could encourage a too precipitate and far-reaching response, and attention is therefore drawn to Skolnik's timely caution, namely that " ... a narrow vocational orientation would conflict with, and
possibly debase, the pursuit of such objectives as the search for truth and new understanding beyond the present frontiers of knowledge; the development of intellect, curiosity, and character; the transmission of culture" (160:81-102). This cautionary comment is echoed in the Recommendations on the Development of Adult Education made by the UNESCO Canadian Commission which, while admitting the need, from time to time, to achieve short-term solutions, states that technical and vocational education should, as a general rule, emphasize the acquisition of qualifications that are sufficiently broad to allow of subsequent changes of occupation and a critical understanding of working life (UNESCO,189:5). The Commission believes it necessary to integrate general and civic education with technical and vocational activities (ibid.) Herein we see kindling for the education-versus-training debate; nevertheless, it could be resolved through the merging of episodes of living and learning - the essence of a lifelong learning culture. The educational system, as a whole, is thus faced with a pressure to avoid one-sidedness and to strive for an holistic accommodation of both cultural and occupational learning.

Notwithstanding these caveats, there is an evident need for the educational system to give attention to improving system performance and accessibility. The introduction of competence-based systems for all levels of education and training has been recommended, in which success is defined by
measurable skills (26:8). Robinson (1995) believes that the traditional training process confuses the training activity with performance improvement by not focusing on performance needs (147:3). That there is a systemic problem here is illustrated by Broad and Newstrom (1992) who report that on average, only 10% to 20% of training transfers to the job so that employees' performance has been enhanced (16:7).

Technological advance is impacting those individuals who are entering the work force for the first time, as well as long-time employees. Both groups are faced with the progressive upgrading of the educational requirements for their jobs. While it can be argued that employers should take over a larger part of job-specific training (which indeed many are doing), the narrowness and short-term nature of this training is undesirable.

A survey conducted under the auspices of the Ontario Institute for Studies in Education has shown that graduates from post-secondary programs are aware of the upgrading of job requirements and continued studies after graduating. Only a minority of undergraduate respondents to the survey considered their bachelor's degree the end of their education (Harvey, 72:255). Evidence is clearly mounting concerning the insufficiency of the traditionally-constructed educational system to keep pace with the technology-driven demand for higher performance levels of skill and knowledge. Learning is now a concatenated series of work/life related episodes.
throughout life.

Financial constraints: The financial constraints imposed on universities and colleges have led to efforts to generate more income through attracting more students. While not, per se, to be decried, this has caused student-faculty ratios to be increased and more part-time teachers to be employed, to the extent that part-timers provide an estimated 40% of the instruction in core disciplines (Ontario Council on University Affairs, 121:16-39).

In an endeavour to obtain balanced budgets, universities in Ontario have taken steps that inevitably lead to the reduction of services they can offer; specifically, cutting some programs, reduction of library holdings, the reduction or deferral of building, plant and equipment maintenance. The results of this, according to the OCUA, are the incurring of significant deficits by the universities, giving rise to forecasts that some Ontario universities will reach cumulative deficits in fiscal 95/96 from seven to ten times that of their fiscal 91/92 deficit (ibid.). This is a critical situation, and added to it are predictions that major cutbacks will be considered, even to the point of closing some institutions should government enter the picture to impose deficit control.

The OCUA point out that a concomitant of such fiscal pressure is in the reduction of students' contact hours with teachers, less academically rigorous course requirements and evaluation methods. The end result could be an exodus of many
first-class professors, with the consequent impoverishment of Canadian scholarship and a deterioration of the intrinsic quality of university and college degrees and diplomas.

Clearly, fiscal constraints are severe impediments to the implementation of the changes sought for and by the educational system in response to current social and technological realities. In the report "Lifelong Learning and the New Economy" (1994), a new role for the educational institution, as well as a recasting of the system, are looked for. Lifelong learning is seen as the key link between educational and economic strategies (Ontario, 130:2).

And so we are faced with the puzzling ambiguity of requiring innovation, change, and what amounts to a "retooling" of our educational institutions in the face of severe diminishment of resources needed for their accomplishment. A suggestion made in the report having some promise, is that of sharing the responsibility for the provision of vocational and professional training with the corporate sector, thereby bringing relief to the public purse while taking pressure off our educational institutions.

Educators face an urgent, implicit mandate to facilitate citizens' learning more, learning faster, and learning how to learn as independent, autonomous students.

Developing linkages with business and industry: Some universities and colleges in Canada and the U.S.A. have moved in the direction of establishing close relations between the
institution and business and industry. This linkage is secured by various forms of contractual arrangement from which the institution derives financial benefits, the reciprocal benefit to the corporate sector being the creativity of the former being made available to the latter. However, such close relationship between educational institutions and the private sector might be viewed through the eyes of an economist as a "transaction of decline" because the institution is essentially relinquishing some of its autonomy — this being the cost to the institution of the partnership. The Policy Statement on University Governance, 1994, by the Canadian Association of University Teachers emphasizes that the autonomy of the university gives it the freedom necessary for effective research and teaching (29). Few educators would challenge this confirmation of co-dependency. There is therefore justifiable concern that institutions' basic research work would focus on attaining commercial goals set by business and industry. Pressure from various quarters, inside and outside the educational system, for universities and colleges to espouse such private sector relationships are viewed with apprehension, and are considered a threat to universities' creative energies — a view substantially endorsed by Canadian scientist Dr. John Polanyi (Globe and Mail, 172).

There is a further downside to such a partnership: the historic mandate to research and teach is fractured, since
teaching becomes a lesser priority in the allocation of financial and human resources (Newson, 118:74).

The advocates of corporate sector linkage with higher education argue that economic needs and a rapidly evolving technology-driven society justify it. If we accept this argument, then the role of higher education must be redefined, since miscegenation with market-driven entities will, as Newson and Buchbinder predict, surely deprive it of its independent voice and its assertiveness in relation to the political forces shaping the social order (ibid., p.72).

Elsewhere in this investigation, non-traditional modes of education will be looked at, some of which specifically focus on improved system efficiency and productivity. As to what extent innovative and non-traditional methods might ameliorate the fiscal and other pressures on the educational system, trial and time will tell.

A **Lifelong Learning culture:** Pressure for universities to self-examine in the light of demographic and economic change is mounting, and the creation of a lifelong learning culture is receiving widening advocacy. The Bovey Commission, 1984, noted the concern expressed by some universities and the private sector about the quality of instruction and research. We might assume that their concern is based to some extent on the causative factors already reviewed in this chapter. The Commission has candidly stated that it would be wrong to convey the impression that all is well (in the educational
system), and emphasized that the pressing issues are the educational needs of adult learners (Ontario, 131:4).

The main task is the integrating of continuing education, including its simple and sophisticated forms, into what has been termed a "seamless" education system extending throughout the learner's lifetime. Conceptually, this is outside the traditional mode and represents a clientele far more numerous than that of the conventional young adult learner.

Functionally, lifelong learning comprises learning episodes that are matched to individuals' life transitions and must be relevant and adequate to meet individual knowledge and skill requirements. As the Economic Council of Canada states in its publication "A Lot to Learn", 1992, "...without appropriate systems and structures in place to facilitate (lifelong) learning, the call for a system in which every citizen may participate is meaningless." (Canada, 25:57).

Lifelong learning implies that it is self-directed and self-planned, with learners moving easily between formal and informal education formats and obtaining appropriate and recognized credit for their learning. Clearly, this will require more flexible arrangements than currently exist in our educational infrastructure (Ontario, 130:12).

The Task Force on Advanced Training, 1993, points up the need for an educational system that is coherent and integrated if a lifelong learning culture is to be nurtured (128:79). This implies the seamlessness to which reference was
earlier made, or, in common parlance, a "learning highway."

The educational system extant comprises a plethora of distinct parts or sectors that, if integrated as the Task Force recommends, would generate the relationships and complementarity that a viable lifelong culture demands. A Canadian university president has poignantly remarked that the present situation may be likened to an "archipelago with a lousy ferry service"! (Ontario, 130:5). Transfer from one institution to another; one educational format to another; inclusion of non-collegial learning episodes, and so on, need to be facilitated to avoid "dead-ending" the learner.

When and how a fully-fledged, structurally-sound lifelong learning culture will come about is unclear. The recommendations and suggestions of various task forces contain much of value. However, what they offer is more skeletal than muscular. Ontario's Task Force on Lifelong Learning sees lifelong learning to be the foundation of the province's economic renewal, but nevertheless leaves us with these pressing questions: Where do we stand, both to build the culture of lifelong learning and to adapt our institutional structures to deliver it? (ibid., p.3). Are these "top down" or "bottom up" problems of management? And just who is "management"?

Roby Kidd has suggested that lifelong learning must be viewed by government as both normal and necessary for a dynamic social balance (Canada Ministry of Supply and Services,
22:24). By implication, government should be one of the primary agents of change in education: but which government? Provincial or federal?

IV. What are the problems associated with maintaining professional competence, and how may they be alleviated?

The professions are generally understood to encompass architecture, science, law, engineering, health care, management, and education. These are, however, generic groupings, each comprising specialist areas with their individual professional identity. For example, the health care profession embraces general practice, surgery, nursing, and pharmacy, each possessing its own professional body or college that establishes and oversees a code of professional practice. Thus a profession is identified as such if it is governed by an appropriate professional body or association. The legitimacy of these bodies is derived from their requiring members to hold a university degree as well as advanced, usually specialist, certification upon which a license to practice is based.

While much is being said in the media and by the professions themselves about upholding and enhancing standards of professional competence, what is being done is another matter. The literature on the subject of the continuing education of professionals is diverse and largely discipline-specific, and also, as Houle indicates, there are no general
principles that can be universally applied to the various situations that influence continuing education at professional level (86:4). While this is not an encouraging context in which to seek a definitive answer to our question, the literature does reveal significant problem areas, together with several plausible solutions.

The need: The need is as obvious as it is simply stated: New technologies will increasingly place pressure on professional workers to upgrade their skills and knowledge. Thomas makes the more specific observation that "... as the rate of technological innovation is increased, new demands for certification (are) directed to adults past the conventional age of participation in formal education" (176:131). He believes that certification has become necessary not only as a means of advancement, but as a means of maintaining a position already reached (ibid.). This shows that continuing education is a universal imperative in which professionals, para-professionals, and artisans are being compelled by circumstances to participate.

Individuals in mid-career in the professional echelons of the work force are faced with obsolescence if they fail to confront the need to maintain and enhance their professional competence. Professionals who become obsolescent retard their own growth and are a costly liability to their organization (Willis and Dubin, 197:22). This points up far-reaching ramifications. As noted by Abernathy, technical obsolescence
and poor management lead to a loss of competitive edge, which in turn leads to job loss and trade deficits (ibid., p.23). Clearly, the responsibility rests with scientists, engineers, and managers to ensure technological parity, at least, with the competition at home and abroad. It is perhaps not as fully appreciated that management and business methodology becomes outdated just as quickly as does technology.

These considerations aside, there is, according to Houle, increasing questioning of the competence of professionals in spite of their credentials, because of the rise in the number of malpractice suits (86:1). This has to be symptomatic of professional incompetence and obsolescence (or possibly an indication of an increasingly litigious society). The concern is becoming widespread that all professionals must make strenuous efforts to maintain state-of-the-art knowledge and skills (ibid.).

The validity of this concern is confirmed by the estimate that more technical changes will occur in the next 20 years than have occurred in the whole of history. They will occur as a result of innovation and invention, and will not necessarily rely on the discovery of new scientific principles (Willis and Dubin, 197:17).

This is a situation that creates a profound back-pressure on the educational system since it has become patently obvious that four years of undergraduate education is no longer adequate to equip the professional person for a productive
long-term career. It is implicit that lifelong learning has to become an integral part of a professional's education.

This is exemplified in the field of engineering because the recently graduated engineer needs assistance in translating his/her academic knowledge into application skills in a work setting.

Further, engineers already established on their career path are needed for such positions as managers of engineering and scientific operations, or as administrators or supervisors. This is essentially a career shift requiring education episodes to bring the participant to the necessary level of competence in the art and science of management.

For those engaged in research and development, their work tends towards increasing specialization and consequent intensification of continuing learning, either in a formal, episodic setting or self-managed independent study.

For all professionals there are motivational factors that probably play a significant role in stimulating their participation in continuing education activity. Bridges considers that professionals in any field realize that they are tied inextricably to their demonstrated area of expertise and that without proven competence or current professional knowledge and skill, they may soon lose the respect of their professional colleagues. This, he suggests, may lead to loss of self-respect or self-esteem (15:56).

In the same vein, the competitiveness of modern practice,
as well as the financial and personal rewards that accompany increased competence and additional credentials, stimulate even professionals engaged in entrepreneurial activity to seek help from various quarters in mastering needed skills (Houle, 86:213).

Shifts in the career path of a professional take place as he or she gets older. Life's natural transitions are a factor in inducing career change. Some practitioners will seek, or be invited, to switch to administrative positions high up in the chain of command. Such change requires significant formal and informal preparation. Other mature professionals may not be prepared to seek such levels of responsibility or be prepared to undertake the labour of attaining state-of-the-art knowledge through continuing education activity. These individuals may switch to what they perceive as "safe berths" in professional associations, educational institutions, or government agencies (Houle, 86:8). Even so, new learning is still involved, since none is likely to be a sinecure.

Another stimulant of involvement in continuing education is the deep penetration of the computer into every aspect of modern life. A high degree of computer literacy is essential to all members of the workforce; indeed, to the citizenry at large. There is, currently, a "generation gap" between senior professional practitioners who have not trained to be computer literate and those individuals who are presently emerging from our educational system. Senior management in particular is
having to make strenuous effort to "catch up" in order properly to utilize the skills and capacities of young entrants to the work force.

Finally, there is the movement by some professional associations and other agencies towards making the maintenance of professional competence a mandatory requirement for the continuation of a license to practice. It is anticipated that within the next five years continuing education, signified by the accumulation of a prescribed number of professional development hours (PDH) may become a requirement for professional engineering license renewal in many parts of the United States (Moore, 108:1).

From what has been said here, it appears evident that the need for all professionals to engage in ongoing learning activity for the purpose of maintaining their competence and for other reasons, is well established and should become a condition for the continuance of their license to practice.

The Problems: It has been noted that the degree of participation in continuing education programs by professionals is not high, even when employers pay the tuition (Willis and Dubin, 197:xiii). This is confirmed by Houle who writes that while most professionals appear in agreement that continuing education throughout their career is essential, there are not many signs that they participate in educational activities, either by enrollment in professional development programs, or by their performance at work (86:76).
The reasons for this are not clear. Some may be found in the overall costs to the professional in terms of foregone income, lost time in a busy schedule, and the inconvenience of attending a course or courses. Tuition costs should not represent a significantly inhibiting consideration for the professional person. Houle gives emphasis to professionals' being generally pressed for time, and also to the difficulty they have in finding the specific courses they are looking for (86:143). With regard to the latter point, there is evidently a conceptual difference between continuing education as conceived by academics and that by the professional person. The professional's learning needs are usually unique, even problem-specific, and a special learning situation may be desirable, even necessary. In consequence, problems of evaluation and certification follow.

Houle sees no universal "best path" and believes that each need for continuing education requires careful analysis, and the result may be a highly structured or very unstructured approach (86:4).

Whether structured or unstructured, continuing education needs to be boundaried by a system, one that is collectively uniformalized, allowing co-operative, progressive activity between academia, the corporate sector, and the professions, as well as allowing scope for individualized, self-managed learning. The occasional reading of a journal or textbook will not suffice. Houle says that some professions downplay
continuing education since they consider that the self-evidence of need will cause professionals to individually take the steps they deem appropriate to meet it (86:85). However, evidence shows this to be spurious reasoning since professionals are not taking such steps in a statistically significant way, as indicated earlier. It behooves the professional associations to give vigorous leadership in causing their membership to engage in systematic continuing education. At present, there is no real organizing framework. Academia and the professions need to become unified in their approaches to continuing education.

The predominant model for continuing education continues to be that of taking courses. While not decrying the value of this model, Willis and Dubin report that it contributes as little as 5% to overall professional development (197:257).

For the purposes of accountability and credentialing, there is a predisposition to equate continuing education with course-taking. However, in my view, this creates an illusion of doing the right thing. Of itself, it is insufficient to ensure professional competence. The possession of knowledge is no guarantee of adequate or enhanced performance. Professional competence is demonstrated by what professionals do rather than by what they know (Willis and Dubin, 197:163). The maintaining of professional competence is predicated upon the continuing educational activity having an application context. This concept is underscored by the comment of a corporate sector CEO who said: "We'd be concerned with
leaving international business and management development entirely to academia. They are not close enough to the realities of business" (Corporate Higher Education Forum, 41:41)

Entrenched in the granting of a credential is ease of accountability, confirmation of an individual's having completed an episode of continuing education, and an ostensible evaluation of his or her performance enhancement. Thus the threat of credentialism becomes a problem in itself. Berg contends that employers have developed a blind faith in certificates and have consequently upgraded their job criteria. He maintains there is little evidence of a positive relationship between educational achievement and performance record (Parelius, 135:72).

An associated consideration is that of careerism, meaning the accumulation of credentials for the primary purpose of satisfying the employer demand that Berg speaks about.

According to Houle, it has been suggested that continuing education activity extant in the professions simply extends the rationing function of credentialling (86:1). Even so, certification needs to be properly justified, if not defending, and Thomas does this when he says

Achievement of a proper balance between an individual's freedom to learn and society's need to judge and control is as vital as it is difficult. Many people see certification as necessary to maintain standards of knowledge and competence. Overemphasis on formal certification, however, can lead to the creation of an "education society"; a poor substitute for a "learning society" based on the maximization of learning capabilities (176:132).
There is evidently a strong body of opinion critical of the status quo as it pertains to the maintenance of professional competence. There is even some cynicism, as the following comment by Robert Ringer portrays:

Don't be so naïve as to believe that because a person has a license that allows him to practice his profession without interference, he knows all the answers; nor is experience a relevant criterion. Seniority isn't relevant; ability and knowledge are. .... Our educational institutions have been worst offenders at giving delusions of grandeur to the people they turn out (145:84, 180).

We look to the universities as being the traditional providers of professional education and training, but we find them facing many problems, not the least of which is their parlous financial condition. The OCUA presents a picture of Ontario's universities that shows quality deterioration and a state of fiscal urgency (121).

What changes to the status quo, what shifts to, or investment in, competence orientation, what expansion and professional program diversification, or other responses can be reasonably anticipated, given the increasing financial constraints with which universities are now having to contend? The answer seems to be that less can be required of the universities; therefore the burden has to be shared, and different, innovative strategies employed.

Dealing with the Problems: The low participation in continuing education programs by practicing professionals might be said to have at least four root causes, namely:
inadequate provision being made by the universities; insufficient support by professionals' employers; lack of vigorous initiatives by professional associations; and the absence of a public strategy to develop an integrated continuing education system provincially, even nationally.

Concerning the universities, it is a recommendation of the Commission of Inquiry on Canadian University Education in 1991 that every university should have a Continuing Education department or office under the direction of a person with deconal rank; the department to be adequately staffed so as to be proactive in finding and meeting the needs of the community (AUCC 4:138). The Commission went on to say that distinction should be made between evening credit studies, general interest courses, and specific knowledge maintenance programs, giving special emphasis to the latter and doing so in cooperation with industry and labour (ibid.). That the Commission discovered these fundamental structural deficiencies suggests universities' disinclination to play a significant role in an educational activity that is becoming increasingly sought-after. Indeed, the Commission observed that "There is an apparent reluctance to welcome continuing education into the heart of the university mission" (4:81).

Some employers report their non-dependence on university-conducted continuing education courses because of content and timetabling problems. One CEO has said: "We cannot afford to have our executives on course for weeks at a stretch. Short,
sharp-edged, issue-relevant sessions are what we look for...
we are teaching each other and relying less on the universities" (Corporate Higher Education Forum, 41:74-75).

In executive development in International Business, executives teaching each other by having issue-specific, brainstorming sessions is regarded as an effective method of achieving heightened professional competence for top management (ibid., p.82). This is an example of employer initiative that could and should be more widely adopted. Top management needs to be committed to continuing education and other professional development activities in order to stimulate employee participation in them, whether in-house or via other providers. Management itself could take a more prominent part in the continuing education of staff by giving challenging work assignments, since work that fails to stretch and challenge also fails to motivate people to learn and grow. Such assignments provide a focus for the professional's learning and are of such a character that professional updating and accomplishment occur simultaneously (Willis and Dubin, 197:207). This would be less costly to the organization compared with other approaches to professional development, and it would remove cost and time loss to the professional, the latter being a continuing education inhibitor that has been well identified.

Continuing professional education needs to focus on the context in which professionals work; a practice setting is
necessary. It follows, therefore, that if the setting is the workplace itself, a stimulative and competitive atmosphere can spur updating activity, much of which can occur through interaction with peers in the profession. A determined initiative by employers to establish, foster, and reward this as a legitimate continuing education activity should be encouraged.

While the professional associations do offer educational services, they do so in a limited way, usually through their journals and proceedings. Their involvement in professional upgrading is implicit in the various grades of membership. Admission to each grade has knowledge and skills criteria that must be satisfied before a member can be considered for election to an advanced level. If we assume that the grade of Associate represents the qualification level for professional licensure, then moving up the grade ladder to corporate member and finally to the highest level of Fellow indicates a hopefully discernible and increasing professional competence. Thereafter the member must, of his/her own volition take steps to maintain state-of-the-art knowledge and skill. Generally, this translates into time spent in reading professional journals and attendance at professional meetings and seminars. More organized effort by the professional association in co-operation with the universities and employers could avoid this anticlimactic situation.

This brings us to the consideration of the need for an
organizing framework for Continuing Education. Thomas calls for a true system of continuing education; one which would provide instruction and support to all students, both part-time and full-time (176:180). He also points out that access to the formal (meaning traditional) education system should be increased and made easier at multiple points throughout life; a cardinal concept in the building of a lifelong learning culture.

To achieve these objectives requires co-operation between the professional associations and higher education providers. From whence will come the implementing impetus is a moot point. While there is some evidence of an evolution in the right direction, progress is hampered by such things as the lack of parity of esteem ascribed to continuing education activity as it is presently constituted.

Furthermore, the pressure on the universities to do more to maintain the competency of professional practitioners has not been met with the congruent priority of ensuring the productivity and vitality of mid-career university faculty; their professional development is not receiving the attention it should (Willis and Dubin, 197:229).

The establishing of an ad hoc council representing the professions, providers, employers, and government for the purpose of creating an integrated system specifically constructed to service the continuing education of the professions would be a logical and potentially productive step.
towards a solution of the problem. Time is of the essence, and a careful acceleration of the evolutionary process is necessary.

With regard to some of the specific approaches to the continuing education of professionals that a continuing education system might embody, the following suggestions are offered, some of which are being currently implemented:

1. Formal programs leading to an advanced degree, the curriculum for which has been developed co-operatively by university faculty, the employer, and the professional association. Such a program may be partially conducted at the employer's premises and partially at the university. The tutors are university faculty but the employer's experts are brought in for specific lectures. Employers would allow professional employees time off for day-time studies or even grant professional development leave intervals, with pay.

2. Intensive short courses or seminars conducted by universities or consulting firms. Fees to be paid by the employer.

3. Programs conducted by professional associations, usually by independent study or courses sponsored by the associations through private sector providers.

4. A degree-path program (master or doctoral) based on a plan mutually developed by the professional and the university, similar to a negotiated learning contract.
Such a plan might include field-work, independent study, formal classes, research, and would be a mix of day, evening, weekend, and vacation-time sessions. Time allotment would be variable and responsive to the professional person's depth of involvement in the field-work or other practica.

Whatever configuration emerges for a continuing education system, it seems clear that the continuing education of the professional person cannot effectively or efficiently occur in the context of a rigidly structured and specialized format. Different, non-traditional methods that allow for institutional flexibility, responsive to the needs of an extremely diversified clientele, are required.
Lifelong learning is a collective term embodying all learning activity from early school days through to retirement. It represents a generally unstructured series of formal and non-formal learning episodes linked to life's natural transitions as well as changes in employment and employment proficiency requirements.

People have always engaged in lifelong learning to some degree or another, but it is now, at the close of the 20th century, that it is seen as having a critically important role to play in maintaining and enhancing both national and global economies. It is a learning highway that all citizens must travel in their own interest and in the interest of the common weal. However, this creates a picture that is far from reality since no organized lifelong learning system, and no universal consciousness of the need for a lifelong learning culture, exist. Useful components for a lifelong learning system are to be found in what we already possess: our universities, colleges, in-house learning systems, and so on, but, as one educator has said, "it is an archipelago with a lousy ferry service".

What is needed is a catalyzing agent to integrate these components and accelerate change.

Well-informed individuals in government, education and
the corporate sector are critical of the status quo. They urge such changes as placing more emphasis on demonstrable competence in the credentialing process; facilitating independent learning; and recognizing prior learning experiences of all types for academic equivalency. Such changes would encourage and expedite the formation of, and participation in, a lifelong learning culture.

The need for citizenry to keep learning in today's society, has been convincingly demonstrated ad nauseam; however, the impediments to it are political, fiscal, administrative, and the bondage of some traditions and historic precedents.

A viable national framework for lifelong learning is needed; one that will authoritatively and systematically pull together education providers in public, private and corporate sectors to create an education highway accessible to all, having points of entry and exit throughout. Who, or what, agency has the power, or can be empowered, to initiate and orchestrate this activity? From whence will come the moving spirit? This need seems as great as that of lifelong learning itself! The Canadian government's Task Force on Challenges in Science, Technology and Related Skills, 1992, makes this pertinent observation:

One of the largest hurdles in the implementation of a national framework for action is the public policy system in Canada.... Our system's inability to resolve problems is due in many ways to the political desire to avoid upsetting stakeholders who may have strong advocacy voices but are frequently without an holistic long-term perspective (27:14).
It ought to be a federal initiative and soon taken, in view of the urgency that attends the matter. However, independent action is being taken in the corporate sector because of the returns inherent in increasing market share through achieving technological leadership.

While universities are criticized for not doing more to support continuing education, it has to be realized that they are operating under severe fiscal constraints: some institutions are struggling to keep afloat. Nevertheless, in view of the growing numbers of part-time and continuing education students, reportedly outnumbering day students by 2:1, increased flexibility and innovation by the universities could prepare a path to solvency if concentrated effort were given to serving the increasing constituency of mid-career adult learners.

Legitimate fears have been expressed concerning the maintaining of the universities' traditional mission. Universities must not become "vocational schools." The eternal verities which they historically espouse must not be abandoned or held hostage to contemporary pragmatism.

The professional associations are ostensibly auxiliary educational institutions, but it is difficult to see how they could provide the more vigorous involvement in continuing education without financial assistance from sources outside that obtained from membership dues. The associations have an important role to play as watchdogs of developments in their
respective fields. Also, they establish student and admission criteria for current professional practice. However, they could contribute to extrinsic motivation for professionals to get serious about maintaining professional competence, by mandating specific continuing education episodes as qualification for re-licensure.

While global communication - the Internet - will undoubtedly play an increasing role in establishing a de facto lifelong learning structure, its eclectic nature makes it difficult to predict how this might turn out.

Finally, the need for a lifelong learning system and culture cannot be met without inter-agency co-operation on a grand scale. The crucial task is to get people learning - to motivate them to do so, intrinsically or extrinsically, and it does not matter how or where they do it as long as learning occurs, and knowledge and competence can be properly demonstrated. This principle needs wide recognition, and educational providers, in all their forms, should coalesce to support and facilitate it.

The literature pays scant attention to the professional teacher's needs. Since teachers are in the vanguard of the lifelong learning movement and represent the top echelons in their field, they themselves need to be co-learners in the lifelong learning movement. They are the valued wards of any educational system, and their professional skills as educators, practitioners, and researchers need constant
honing, with the full support of the system.

We have seen in this chapter that the creation of a learning society is receiving vigorous advocacy from many quarters. However, it is only in that part of our lives in which we are occupationally active that learning is critically important to us and the new economy. Thereafter, the learning in which we engage is avocational, self-actualizing and recreational. Thomas helps put this in proper perspective in his comment that "The notion that there could be a society in which every member is learning all the time is clearly absurd" (176:183). We have to take time to smell the roses, or what's a heaven for?
CHAPTER 3

The Philosophy of Lifelong Learning

Sub-questions:

I. How does the educating of adults differ from the educating of younger students?

II. What special qualities and skills do teachers of adults require?

III. What are the characteristics of a viable adult learning environment?

IV. How should educational institutions change to accommodate the needs of the lifelong learner? What currently is being done?
I. How does the educating of adults differ from the educating of younger students?

This chapter addresses some of the philosophical and methodological issues associated with lifelong learning.

While philosophy per se is popularly conceived as an abstruse subject having little bearing on real-life situations, it is, as Bridges observes, largely from the work of educational philosophers that many innovations in adult education have come (15). Simply put, philosophy is concerned with why a thing is done rather than how, and, according to Elias and Merriam, there are relatively few educators who ask "why" or think deeply or seriously about the purposes and consequences of education (56:9). However, the growing perception of education as a lifelong process is forcing the recognition that there is a special philosophy associated with the education of adults. There are fundamental distinctions between the philosophy of education of younger students and that of older learners which have to do with the social, physiological, psychological, economic, and environmental considerations associated with being a career-path adult learner.

Lifelong learning calls for special methods of teaching and learning, as well as for different relationships between all participants in the learning process.

Young learners in the formal educational system receive preparation for life and first entry into employment, whereas
adults are experienced, active participants before and during their voluntary involvement with the educational system. The systemic difference between the educating of adults and younger students is found in the orientation of educational institutions to serve the needs of youth - needs that are preparatory for life and work. This orientation is in the curriculums, close scheduling, training of teachers, physical accommodation, and in the traditional "batch" teaching process that dominates the system: in essence, a production-line model.

This model has been shown to be inappropriate for adult learners, since their learning perspectives and learning needs are different and unique.

Adult learners are concerned mainly with the current issues and problems of living and working, and regard learning as a way of becoming more effective in dealing with them. Adults' time perspective is that of people in a hurry, and this causes them to seek information that has immediate application.

Knowles has commented on the unsuitability for adults of the authoritative, structurally rigid approach of conventional institutions of learning which, as previously stated, are oriented to the young learner (95: 21-30).

In adult education, there are many individual learning styles and the teaching has to reach out and connect with each one. This is in striking contrast to the traditional content.
model, where the teacher pre-plans the knowledge or skill to be conveyed to the learners. In educating adults, the unique goals of each individual learner is central to the learning process. This, according to Boud and Griffin, 1988, forms the basis of the structure that helps learners achieve their own ends and make judgments about the degree of success of their self-directed program (13:224).

It is this switch to learner centrality that identifies the different philosophical and methodological structures found in adult education. Knowles calls it the Process, or Andragogical, model, the critical feature of which, as Thomas notes, being what and how the learners are willing and able to learn, rather than what the educator wants to teach (176:30).

Malcolm Knowles is recognized as a founder of the andragogy school, and the originator of the concept of the "teacher" as a Facilitator of learning rather than a transmitter of subject matter. The role of the facilitator is to help the adult learner define his or her own needs and to respond to them. Although not precluded from being so, the facilitator is not primarily a source of knowledge about the learner-defined task. While the learning situation obviously has to be concerned with content, its main purpose is to identify appropriate resources for helping learners acquire for themselves the information and skills they need. Thus the individualization of learning is inherent in the andragogic model. Superficially, this appears to be a shifting of the
responsibility for the education process from the educational institution to the individual learner, and to some extent it is. However, there is empirical evidence attesting to the validity of doing so, as, for example, in Problem-Based Learning, to be discussed in a later chapter.

Knowles asserts that the philosophy of andragogy and the concomitant self-direction of learning is based on certain reasonable assumptions, namely, that as a person matures, his/her self-concept moves from that of total dependency towards increasing self-directedness, and that the accumulation of life and work experience becomes a rich learning resource. Also, readiness to learn is connected with the individual's evolving social roles and career path goals (95:55).

Knowles confirms adults' learning orientation to be towards real-life situations, and he considers that the core methodology of adult education should be the analysis of learners' accumulated experience (95:31).

While these assumptions are sound enough in themselves, there is, as Knowles acknowledges, the possibility of life and work experience ingraining opinions and attitudes, thus causing the learner to be less receptive to new ideas and ways of doing things (94:102).

There is some opposition to the philosophy of andragogy, the argument being that the essentials of the education process are the same for all ages of life, and the basic design of learning is identical, whenever or wherever it
occurs. Yet those who support the andragogy school maintain that there is a distinct point of departure from pedagogy into the complex concept of adult learning. That adult learning is indeed a complex concept is confirmed by Keane, who draws attention to the continual process of adjustment throughout life, involving a person's perspectives, beliefs, values, and attitudes (Boud, 13:94). In andragogy, the learners and "teachers"/facilitators are alerted to these adjustments, as well as factors that do or do not facilitate the transitions associated with them.

The increasing differences with age and the transitional stages through which people pass, as identified by Levinson, make the question "Who is the adult learner?" difficult to answer (100). We should not infer that younger learners can be regarded as an homogeneous group; some degree of indulgence of younger learners' individuality should be given. However, with adults, greater consideration of individual needs is necessary. The inevitable physiological changes that occur over time clearly distinguish the adult from young people, and have to be taken into account by educators. Yet as individuals get older, physiological changes notwithstanding, there is no conclusive evidence pointing to a decline in learning ability. On the contrary, and as Apps point out, some skills may be performed considerably better with age, such as decision-making or making sound judgments, since both these require the backing of experience (1:50).
Concerning the question of intelligence, which is of particular importance in the study of adult learners, it is necessary to dispel the myth that intellectual growth ceases in the early adolescent years. Intellectual development continues through life, and it relies heavily for its growth upon the interests and attitudes of the learners - in short, upon their desire to learn (Blair, 12:95). Learning continues regardless of when the capacity for learning levels off. Continued intellectual sophistication and the learning of new skills and methods all become part of the operating or functional intelligence (ibid.).

This functional view of intelligence is shared by Bischof who defines intelligence as "the variable capacity to solve problems of all kinds that the human is likely to encounter in life." In his opinion, social competence and effectiveness in coping are better measures of an adult's intelligence than conventional tests (Apps, 1:51). The inference here is that intelligence cannot be reduced to simply what can be measured by a so-called intelligence test. Nevertheless, the performance of adults in such tests is interesting. Bultes and Schaie found that, of the scores on four dimensions of intelligence (in a study of 500 adults, age range 21-70), Crystallized Intelligence (the skill one acquires from education, from living - skills with language, numbers and inductive reasoning) and Visualization (organizing and processing visual materials - identifying a complete picture)
scores increased dramatically with age, whereas Cognitive Flexibility (the co-ordination of visual and motor tasks) scores declined (Apps, 1:52).

Bultes and Schaie's study also showed that generations made a difference in the scores, and it was hypothesized that differences in the performance of adults in the tests related to the educational system which each generation experienced, and not to decline in scores because of age.

It follows, therefore, that the education of adults must embody a unique philosophical perspective; one that has several contexts: basic education; academic upgrading; maintaining professional competence; skills enhancement; learning for life enrichment; full- and part-time learning at university or college; and independent self-directed learning. Also, there are significant variables to be taken into account which include the age, aptitude and ability of individual learners, as well as the specific learning system or environment in which learning is to take place.

The foregoing illustrates the complex nature of adult education which categorically differentiates it from the education of young people. It is not easy to construct a common philosophical base for adult education because of its several contexts. Nevertheless, there are certain general principles to be found in some or all of them, namely:

* Adults engage in learning that is linked to their goals and interests. Goals may change after an exploratory
period of learning.
* Adults choose to learn what they want to learn (Thomas, 176:150)
* Learning experiences should be guided by suggestions, not rules.
* Self-directed learning is best suited to learners who can clearly identify and articulate their own learning goals and for which they can call upon their own experiential and other resources.
* Learning should reach beyond the solution of day-to-day problems. The aim of the higher levels of education is the attaining of knowledge of principles and causes.
* Mature adult learners have a strong motivation to succeed and are able and ready to take responsibility for their own learning.
* For most people, learning becomes more closely attached to particular objectives as life progresses.
* Learning follows confrontation with a problem rather than preceding it (Thomas, 176:133).
* The negotiable learning contract gives learners freedom from dependence upon responding to what the teacher provides (Boud, 13:224).
* "Teachers" react to learners and generate an environment in which exploration can take place (ibid., pp:224-225).

These principles are also to be found in the tenets of John Dewey's philosophy of education (The Progressive School).
In his criticism of the traditional education system as it applied to children and young people, he maintained that learning is best when it grows out from students' direct experiences; through interaction with the environment and the search for solutions to the problems arising from such interaction. He saw obvious irrelevancies between daily life and the learning materials and methods of the educational system. He called for more attention to be given to students' own initiatives and interests.

We are thus led to suggest that Lifelong Learning ought to be a single indivisible model. Indications are reasonably clear that the focus of change should be on early education, moving it toward the Progressive School, thereby bringing philosophical and methodological unison to the education of younger and older learners.

II. What special qualities and skills do teachers of adults require?

The Art of Teaching. Professional educators require a knowledge of the philosophy of education; they need to know not only what they are to do but are also aware of the principles for so acting (Elias, 56:9). Yet mastery of techniques, or experience alone, does not make a professional educator. Teaching is both an art and a craft, and requires an understanding of the human experience.

Bergevin et al. confirm this in saying that, as adult educators,
We must be sensitive to the fact that we are working with people - complex persons of flesh and blood - not statistical units or even mere members of a group. All the procedures ever devised will be of little value if we lack insights into human nature - our own as well as the other person's (Apps, 1:170).

It has been well said that "teaching" means "causing to learn and understand"; nothing has been given until it has been taken; nothing has been taught until it has been learned. The teacher can be regarded as being subsidiary to the process of learning. The essential activity is not the adjustment of the learner to the teacher but of the learner to society. Although the teacher may facilitate this, he/she has to be external to it. This should not be interpreted as belittling the value of the teacher; it simply means that the teacher should know when to engage and when to stand aside; when to explain and when to leave the learner to discover; when to demonstrate and when to let the learner experiment. These principles apply equally to the education of the young as they do to that of the adult learner, and they must be employed with sensitivity and imagination. There is no technique or prescribed set of rules; the trained and experienced teacher knows intuitively what, or what not, to do. This is the art of teaching (Tremlett, 202).

Fundamental changes in the intellectual outlook of contemporary society are necessarily reflected in education at all levels and, as Whitehead long ago observed, "For education to be living and effective it must be directed to those ideas and to creating those capacities which will enable (learners)
to appreciate the current thought of their (times)" (195:80).

Through the art and craft of teaching, the changes necessary to bring the learner en rapport with both the subject and society are mediated and facilitated.

Profile of the Adult Educator. A teacher of adults possesses unique qualities, both as a professional and as a person. For the purpose of this investigation, I will touch lightly upon the distinctive personal qualities of the adult educator, since these are things about which one cannot be dogmatic. That said, it is generally acknowledged that good teachers are those who have certain natural qualifications for the job, and are most characteristically their natural selves in their contacts with learners. Even so, the following qualities can, to a degree, be acquired by experience and diligent self-evaluation.

The Teacher as a Leader. Leading and teaching have much in common, but leading does not means "driving" or being overbearing. Although a leader is characteristically assertive, other aspects of leadership must interplay, such as tact, and a capacity for understanding those being lead. Leading must be "played softly" and its strength be seen in the good judgments which learners respond to and respect (202).

Clearly, leadership is not a simple trait; it also means having an eye for significant details and keeping the learners "on track"; being an organizer, as well as being able to maintain a benign control of all situations.
The teacher must not let his/her assertiveness usurp the role of the teacher as facilitator. He or she must be ready and willing to experiment and improvise when confronted with new situations, and to try new ideas (ibid.).

Patience is a virtue in any profession. There are occasions when one is called upon to "suffer fools sympathetically," and there are interesting techniques for doing this without appearing "soft" or losing self-control. The teacher with a vigorous, dynamic personality is generally well respected rather than one lacking emotional expression. A teacher's general enthusiasm for teaching and topic has been found measureably contributive to the adult learning situation (Knowles, 95:98). A quality worthy of special note is having a sense of humour. This can be educative in many ways, providing that the teacher does not overdo it and be perceived as a stand-up comic.

And then there is the professional manner of the teacher. This is something that perhaps concerns us less these days than it did 50 years ago. It is a matter of mutual courtesy that neither adult students nor their teachers should be inattentive to the importance of good speech, a businesslike and interesting manner of address, and an avoidance of sartorial abnormalities. Speech is the most important component of a teacher's personality. However, while a good teacher is self-critical and will frequently evaluate his or her personality strengths and weaknesses, care
is necessary to avoid becoming unduly self-conscious and thereby adversely affecting the learning situation. The teacher's main concentration has to be on the learner's side of the activity. This focus on the learner is crucial in adult education. Thomas asks the teacher of adults to find out how a problem or learning need is perceived by the learner (176:30). This is one of the teacher's primary responsibilities, the principle being, as indicated earlier, that the learnings which an adult is most highly motivated to undertake are those he or she perceives as having the potential to satisfy personal, immediate needs. For success in gathering this sort of information, the role of the teacher as facilitator will also embody a counseling function. This means entering into a helping relationship with learners. Thus the teacher of adults has to have an interest in the behaviour of people, their attitudes, motives, ideas, and responses. The helping relationship takes place because the learner seeks information, instruction, advice, assistance, and understanding from the teacher. Teacher and learners work together toward a mutually acceptable goal; they search for contributions and resources useful in attaining that goal. As a counsellor, the teacher seeks to identify the attitudinal and emotional blocks to learning that learners may be experiencing. Learners need to be helped to a clear view of any barriers to learning and to be given guidance in working towards removing them. This assumes a cognitive and an
affective dimension in the learning situation, the cognitive dealing with the subject matter, and the affective with the feelings of the learners and their interpersonal relationships in the learning group.

With regard to content, it is both unrealistic and unnecessary for the teacher to have "expert" status. Apps, drawing on Benne, explains it this way:

In an age of super-specialization, it is clearly impossible that an educator of adults be expert in many fields of knowledge .... this may be an impractical and unnecessary demand .... Perhaps the better conception of the "expert" function of the educator is for him to be alive to the need for using the best expertise available, to stimulate learners to seek valid expert knowledge and advice as needed, to require that discussions and investigations designed for adult learning reveal the limitations of the learners and motivate them to "fill the gaps" (1:163).

Overall, the teacher's special objective is to draw out for more functional use the latent inner resources of the learners. However, the learner should not be, nor feel, coerced.

The co-operation of learners with the teacher is a measure of the dignity accorded to the learners at all times by the teacher.

From his examination of research using such instruments as the Minnesota Teacher Attitude Inventory, Gage found that "Teachers at the desirable end of the scale tend to behave approvingly, acceptably, and supportively; they tend to speak well of their students, students in general, and people in general. They tend to like and trust, rather than fear other
people of all kinds" (Knowles, 95:97).

Similar findings were reported by Flanders and Simon, whose examination of research studies led them to conclude that

The percentage of teacher statements that made use of ideas and opinions previously expressed by students is directly related to average class scores on attitude scales of teacher attractiveness and liking the class, as well as to average achievement score adjusted for initial ability (Knowles, 95:97).

Learner's needs and difficulties. The teacher of adults must know "where the learner is coming from." It is necessary to develop an appreciation of the ideosyncratic nature of adult education. For example, adults have a deep need to be self-directing, a principle that is supported by research and confirmed by Knowles, who considers that "a person becomes, psychologically, an adult at the point at which he accepts responsibility for managing his own life; when this point is reached, there develops within him a deep need to be treated as a self-responsible, self-respecting, self-directing organism (94:99).

Furthermore, the teacher of adults must appreciate that when students find themselves in a situation in which they feel they are being talked down to, being told what to do, they feel the situation to be in conflict with their self-concept, and the result is "flight or fight." Thomas concludes that

When a mature person encounters a formal educational agency that tries to force him or her to submit to predetermined decisions about what should be learned and how, some sort of dialogue, if not
outright conflict, is bound to result. Less enlightened agencies and instructors try to ignore or suppress this dialogue, but the more enlightened ones welcome it (176:11)

Adult learners are not best served by, nor do they seek, learning situations that are characterized by the traditional in loco parentis style found in the education of the young. The teacher of adults has to understand and accept that the adult learner's need to be self-directing is a concomitant of maturity. The ability to do this authentically develops when, as Thomas says, "experience allows the person to identify the subject about which he or she wishes to learn and to plan the approach by which that learning is best achieved" (176:4). The learner needs to feel that he or she truly "owns" his or her learning in order for it to succeed (ibid., p.129).

Adult learners returning to study after a significant time lapse since engaging in an episode of formal learning may have difficulty with insufficient self-confidence. Many would-be adult learners are influenced by the idea that old dogs cannot be taught new tricks, and they need reassurance to the contrary. Hence their primary concern is to prove to themselves that they have the capacity to study. This is more important than the actual course material. Once self-confidence is gained, the adult learner becomes more receptive to external help from the teacher. Many adults need counseling, particularly in the early stages of their entry or re-entry into study, but they do not like to be treated as though they do. They are not comfortable if they think their
self-perceived inadequacies are at all obvious. As Carl Rogers has observed, "it is often difficult for (adult) learners to acknowledge and express their needs .... (they) need the context of a highly supportive environment to be able to recognize their needs and begin to explore them. This environment can be provided by a non-directive facilitator" (Boud, 13:275). The learning environment has considerable bearing on the level of success of adult learning, particularly if the learning situation is in a classroom where age-mature and younger people work together. The older learners can be inhibited from fully participating because they do not want to appear less "sharp" than the younger ones.

Other problems that face the adult learner have to do with the inter-relating of family responsibilities, employment and a full- or part-time educational program. These represent some of the toughest challenges to the facilitation of a lifelong learning culture.

Facilitation. Knowles and others have shown that in the context of lifelong learning, teaching has to become the facilitation of self-teaching by an agent of change - the adult educator. Facilitation is not easily defined, because it goes beyond conventional teaching into the many different modes in which adult learning can occur. Thus the actual facilitation method depends upon the learners and the nature of the tasks in which they are engaged. This is exemplified in instrumental learning - task-oriented problem solving - (as
in physics or mathematics) where learners receive detailed feedback on their work from the facilitator. In dialogic learning, mostly in a study group, where the learners draw on personal experiences, using them to make their own assessment of a problem situation, the facilitator's task is to help the learners to be receptive to the different, even controversial, views of others, and to realize that, for some problems, there are no hard and fast solutions.

The facilitator can play several different roles, perhaps assuming more than one of them during the progress of a particular learning situation. The counseling role has been previously described. Other roles, suggested by Apps, drawing on Benne, are the educator as a model, as an expert resource, or simply as a guide for the learning process.

In the model role, the educator demonstrates, through his or her behaviour, such things as how to be an independent learner and how to deal with ideas in depth. The educator shows enthusiasm for learning, demonstrates the importance of knowledge in its relationship to life, and so on. Because some learners view the educator as an authority figure, they will follow his or her example.

In the expert resource role, the educator is just that, and comes close to being a traditional teacher. Traditional authoritative teaching is appropriate, at least for part of the time, in some learning situations.

In the guiding role, the educator is acting as a manager.
of learning and is involved in suggesting and selecting appropriate learning methods, partnering with the learners in making decisions concerning paths to the learning goal that the facilitator and the learners have mutually planned. The facilitator also shares in the decision-making concerning possible changes in the learning path that might be suggested as the learning develops (Apps, 1:163).

Facilitation concentrates on encouraging learners to do and think for themselves by getting them to use libraries, access data banks, and take independent initiatives in communicating personally with different resource people. Whatever the role adopted by the facilitator, or the mode of facilitation, the needs of the learner must influence the strategy and behaviour decisions of the facilitator. Nevertheless, facilitators may not always judge it prudent to do exactly what is asked of them; as educators they must stand for certain values themselves (Boud,13:231).

Perhaps the most radical departure from traditional teaching practice that facilitation represents is the ongoing dialogue between facilitator and learners, and between the learners themselves. As Freire has observed, "This involves more than (the facilitator) simply listening, it involves checking understanding and allowing one's (the facilitator's and others') ideas to be criticized" (Boud,13:227). This can be a disturbing perspective for teachers conditioned to the traditional authoritative model.
Teacher education. "All there is to teaching can be learned through a good education and being a teacher", says Robert Hutchins in his book *The Higher Learning in America* (87:56). This beguilingly simple statement apparently says it all, but it is "being a teacher" that is where the action is. In this chapter we have talked about the personal qualities the teacher needs to possess and we have touched upon the philosophy and methods about which a teacher must be informed. Thus teaching as an art has a discrete body of knowledge associated with it that one who essays to teach should possess. It follows that the teacher has to obtain that knowledge, preferably by purposeful teacher education, rather than by being left alone to develop the skill over time by osmosis, which may or may not lead to a satisfactory result. Generally, university and college teachers, who are those mostly involved with older learners, do not receive any special training in teaching. In the case of the former, this may be due to teaching per se being undervalued in the university's reward system, compared with research. Parelius categorically states that merit increases, professional prestige and promotion often depend more heavily on publications than on successful teaching. He also observes that there are few satisfactory mechanisms by which teaching can be evaluated (135:91). These conditions provide little incentive for a teacher to work on becoming a competent teacher of adults. Yet there are those that do attain
excellence in teaching despite disincentives, as Whitehead confirms when he says "In every faculty you will find that some of the more brilliant teachers are not among those who publish" (195:99).

There are grounds for concern about the inadequacy or non-availability of teacher education in the domain of adult learning. The onus to provide - or facilitate - it, rests with the educational system, not the individual teacher. Beard and Hartley report that studies in the late 1970's showed that university teachers were often found to be ineffectual, but were unaware of their shortcomings (10:9). Those shortcomings included poor lecture preparation, not relating lecture material to practical issues, lack of enthusiasm, and not engaging in question and answer sessions with the class (ibid.) As a minimum, neophyte and long-time teachers equally should receive advice and guidance from a senior colleague well-esteemed and respected by students for his/her teaching skills. Furthermore, encouragement should be given by university or college administration to faculty at all levels of seniority to participate in a formal course(s) of instruction.

As to what the content and style of a teacher education program should be, Wise and Maxwell believe that

Teacher education at all times should exemplify and demonstrate the teaching methods found effective with adult groups. Because of the variety of needs to be served, a teacher education program will give opportunity to utilize many teaching methods: group discussion to solve common problems; discussion by panel ...; group projects;
observation; individual study, and lectures may be employed in appropriate situations. If the use of each method is preceded by an examination of its potential values and is followed by an analysis of its effectiveness, every lesson will not only serve its own specific purpose, but will also demonstrate the technique of teaching (adults) (Kncw1es, 95:35).

In summary, what has been shown in this response to the sub-question is that, in the art of teaching adults, there is much more than the competent exercise of mere technical skills. The teacher needs to be well acquainted with the fundamentals of the techniques described, but should be ready and able to take on the task as a facilitator of learning with consummate enthusiasm, and a willingness to experiment. Intimate knowledge of the learners is necessary if the many variables encountered in the learning situation are to be properly handled. For this there is no formula - no substitute for the personal effectiveness and inspirational force of the teacher.

III. What are the characteristics of a viable adult learning environment?

Psychological aspects of environment. Environment has a profound effect upon the learner. Growth, whether physical, mental, or social cannot be separated from the environment in which it occurs; it is inter-woven with all stages of an individual's life. The continuous interaction between a person and his or her environment leads to behavioural change.

No one, regardless of age, potentialities, or basic qualities can survive in the absence of a favourable
environment.

In education, environmental factors play a vitally important role in the mental development of the learner. Crow has shown that intelligence is enhanced by a favourable environment and lessened by an unfavourable one (46:58). Based on various studies, De Cecco has hypothesized that a change from an impoverished to an abundant environment could bring about a gain of 20 IQ points in an individual; essentially a shift from a semi-skilled job to the professional entry category (51:213).

What is or is not an environmental factor is differently perceived by different individuals: an external condition considered by one as a factor may not be so regarded by another. Thus an external object or condition can be physically present but psychologically absent; room noise may disturb one learner's concentration while another may be oblivious to it. This is an example of what is termed an effective or psychological environment as distinct from a geographic environment, which exists whether or not the learner is affected by it.

It follows, therefore, that we need to be quite specific when using the term environment, since it is commonly and erroneously understood to refer to all external conditions which might have an effect on an individual.

Learning environments identified. Learning environments can be established within the walls of a traditional
institution; they can be in the workplace, the community, or the home; they can be entirely the responsibility of the learner himself or herself, or a shared responsibility between the learner and others, or they can be the responsibility of others.

**Basic principles.** The basic principles upon which the development and maintenance of a viable learning environment depend, apply equally to the independent, autonomous learner as they do in the formal settings of institutionalized learning. Awareness of the generalizability of these principles is necessary because learning is not restricted to traditional institutions. Thomas, quoting the work of Tough and others, tells us that in Canada hardly more than 20% of the learning that is taking place is associated with traditional classroom work and formal courses of study (126).

The learning environment comprises three components: the physical, the organizational, and the socio-emotional. In order to ensure an holistically favourable environment, each of these components must be carefully and contextually analyzed, and appropriate adjustments made to reduce obstacles to learning (Brundage, 18:83).

The physical component is clearly concerned with creature comfort, and includes such things as heating, lighting, air-conditioning/ventilation, rest rooms, good acoustics, safety features, ease of access/exit, and so on.
Ecological psychologists have found that colour influences mood; bright colours induce cheerfulness and optimism. Also the size and layout of physical space affects the quality of learning.

The organizational component refers to the administrative structure, policies, procedures, and the spirit of the organization in which the learning takes place. Regardless of whether it be an educational, industrial, or other institution, Knowles believes the organization should be innovative and democratic if it is to provide an environment conducive to learning, and he characterizes an innovative organization as follows: Its structure will be flexible and there will be a readiness to depart from tradition; collaboration will replace rigid hierarchy. The atmosphere will be warm and informal. The style of management will be supportive and will encourage the professional development of all personnel. Policies will be developed by the participation of all those affected. Communication will be open, easy access, and multidirectional (95:93).

The socio-emotional component is critically important and relies substantially on the climate created by the adult educator. He or she has a responsibility to generate a non-threatening and encouraging atmosphere. Hey emphasizes that no aspect of education is more important to the adult learner than the feeling that the situation is psychologically safe and supportive, because adults do not have the same level
of peer group refuge that is present in the school experience of young students (78:14).

This can only come about if there is a trusting relationship between teacher and learners. The adult learning climate should be non-competitive, interactive and informal. Brundage believes the absence of severe time constraints is a significant influence in the development of a viable learning environment, as is allowing learners to work at their own best pace (78:23-24).

The quality of the environment. This depends upon the extent to which the underlying principles are applied to each of the three components of the environment. Thus the educative quality of the whole environment is influenced by the direct facilitation of the development of the learners by the teacher and indirectly through the appropriate adjustment of the physical and socio-emotional climates.

It is reasonably apparent that the quality of learning that takes place in, or under the auspices of, an educational institution is affected by the type and character of that institution. The institution is not simply an instrument for providing organized activities for learners (Knowles, 95:50); it has a coalescing influence that either facilitates or hinders learning.

An institution's most effective instrument of influence is its own behaviour. Knowles illustrates this well when he says "No educational institution teaches just through its
courses, or corporation through its in-service courses. They teach by everything they do and often they 'teach' opposite lessons in their organizational operation from what they teach in their educational program" (95:91).

Thus the teacher of adults faces what can be a daunting task as he or she endeavours to pull together the essential elements of an educative environment. If the externalities of the organization itself are forbidding or hostile, there is always the microcosm of the classroom, where the invisibles of a quality environment such as the charm of good speech and manner can be cultivated.

IV. How should educational institutions change to accommodate the needs of the lifelong learner? What currently is being done?

A shift from traditional structures. The emergence of the andragogic school, previously discussed in this chapter, is one of the elements responsible for a significant shift in the thinking of educators and learners away from the highly institutionalized, traditional modes of education and toward less obviously structured and centralized methods. The reasons for this are to be found in the unique philosophy that lifelong learning represents, with its focus on adult students' self-management of learning.

The Canadian Government's Task Force on Challenges in Science, Technology, and Related Skills report entitled "Prosperity Through Innovation" (27:6) believes that the cause
of lifelong learning and the development of a learning culture will not necessarily be furthered by traditional ways of learning. Also, in the Consultation Paper "Learning Well ... Living Well" published by the Ministry of Supply and Services, Canada, 1991, we read that "future skills needs cannot be met by our existing learning system" (24:v), and in the report of the Task Force on Lifelong Learning by the Ontario Premier's Council on Economic Renewal, 1994, it is stated that "Individuals will have to reshape their aspirations and take more responsibility for managing their own education and training over a larger part of their life - barriers that might get in their way will have to be removed" (130:8).

It is curious to find that the conclusions and exhortations of recent studies continue to echo what the Faure Report was calling for more than twenty years ago. It contended then that, contrary to traditional ideas and practice, teaching should adapt itself to the learner, with the direction of the change being toward self-teaching, autonomous learning, work and community learning activities, occasional support by others with expert knowledge and experience, and the facilitation of learning by educational organizations - those which are part of the educational system as well as the training functions of business and industry (UNESCO, 188:7). The Faure Report called for the expansion of lifelong learning, with its concomitant self-management of
learning, and spoke of the traditional concepts of teaching being replaced by a focus on learning (ibid.).

Miller lends his support to the shift away from preoccupation with courses and methods towards an educational system that is more concerned with diagnosis and individualization (Houle, 86:276).

The above-quoted literature sources contain many, virtually identical, major recommendations. In the twenty years spanned by the literature, no vigorous implementation has been initiated by federal or provincial governments. All the reports proclaim a need for action. The Canadian Government's Action Plan - Inventing our Future - 1992, reflects this tenor in stating that there is a need to "reach across traditional boundaries to re-invigorate our economic educational and training systems" and that "The time for further discussion and study is over. The time for action is now" (26:5-7). Despite the absence of vigorous implementary action by government, shifts from traditional structures are occurring in the public and private sectors of the educational system. These shifts are driven by social evolution and technological advance. Significant independent initiatives are being taken by academia and by business and industry. Evidence is to be found in the growth of Information Technology which, via "open learning," distributes education and training to the home and the work-place, as well as improving access for a larger part of the population.
A further radical shift from tradition is in the University Without Walls movement previously discussed. The UWW movement, the Distance Teaching University, and the non-campus college capture the essence of the lifelong learning philosophy. Campus-based learning is de-emphasized or abandoned, and a variety of methods and technologies are used that allow students to learn systematically wherever they are located: at home, at work, via internships, or by independent study. The classroom and even the prescribed curriculum are either discarded or only occasionally employed. Yet these represent but a piecemeal approach to the pervasive problem of bringing lifelong learning into an integrated national framework - a problem that will persist until the government, or an adequately empowered national body, enters the picture as a strong co-ordinating force. Nevertheless, the political will to do this may be stimulated as the realization that the migration away from the campus paradigm has, theoretically, favourable economic ramifications. This and other reasons for supporting it are suggested in Thomas' comment that "the public no longer automatically accepts further expansion of (traditional) educational systems .... there are other ways of reaching learning objectives that need to be explored and supported" (176:138).

The greater part of lifelong learning has to do with the merging of learning and work, and although it is suggested that a "judicious mixing" of work and classroom experience
promotes efficient and effective learning (Canada Ministry of Supply and Services, 24:19), such mixing could conceivably take place wholly in the work-place environment without the direct participation of an outside educational agency. Feinstein sees the work-place being transformed into a "major seat of learning"; she calls this a "paradigm shift from didactic education to situated learning" (60).

The pros and cons of self-managed learning. Self-managed learning means that the learner accepts primary responsibility for planning, initiating, and conducting his or her learning program or episode. Sweet considers that implicit in lifelong learning is a requirement for the learner to be autonomous (168:4). The literature shows that adult learners in a statistically significant number have indicated a preference for learning on their own, but under the guidance of an academic supervisor (Waniewicz, 193:100). While this is not strictly autonomous learning, it approximates closely to it. It is reasonable to assume that, rather than leaving the learner to simply "have at it," he or she ought to receive instruction in how to learn independently; that is, in learning how to learn, learning autonomy could be realized. It seems clear that adult learners as a constituency are disposed towards learning autonomy, yet there appears some reluctance on the part of the Educational Establishment to "let it happen" to any great extent. There is teacher opposition to the relinquishing of their
traditional roles and becoming counselors, facilitators, or writers. Also, there is equivalent reluctance on the part of adult learners to take complete control of their own learning.

Most adult learners have not experienced any other approach to education than having someone else organize and present information to them. Consequently, they will tend to rely on the professional educator to assume some responsibility for directing their learning. Tough wonders if educational institutions encourage the belief that only learning conducted by them is important, legitimate, and effective (183:75). Thus autonomous learning is stigmatized by its radical departure from traditional modes.

These perceptions hinder the progress of a lifelong learning culture since autonomous learning - self-teaching - is acknowledged as an imperative if individuals are to keep pace with change. Tough believes that the adult learner has to be jogged out of his or her ingrained habit of acquiescence and into the active role of organizing and evaluating his or her own learning (183:14). But what does this "jogging" entail? It refers to the need for adult educators to address the important task of helping adult students to learn how to learn, so that they can eventually reduce or give up dependence on an instructor or an institution. Miller puts particular stress on the importance and the nature of this helping relationship between educator and learner during what might be regarded as the pre-autonomy stage of studentship.
(Tough, 183:30).

The hypothesis that motivated students may learn more efficiently and quickly on their own has, to some extent, been confirmed by Keller's personalized system of instruction (PSI). However, in PSI, the learner receives logistical and study-management assistance from the educational institution.

An interesting piece of experimental research by Newman showed that adults who used their own individual study techniques had better results on a post-test than those who studied by prescribed methods (Tough, 183:120). The obvious conclusion here is that, given freedom to adapt study method and materials to their own cognitive style, adults learn well.

While Newman's experiment validates self-teaching per se, it does raise questions about the efficiency and speed of learning. We might suspect that in truly autonomous learning, speed and efficiency might not be too high, thus causing the student some frustration and aggravation. Newman's research would have been more meaningful had he dealt with this hypothesis.

In calling for adult learners to learn more efficiently and quickly on their own, Tough brings us face to face with a dilemma. Institutionally mediated or brokered methods can bring speed and efficiency to learning, as evidenced by PSI. As for pure autonomous learning, we comprehend its theoretical economic and operational advantages, and we can appreciate the psychology that it embraces, but as to its speed and
efficiency we have more doubts than data! Gross sums it up when he says "Our thinking about learning has been dominated for so long by the image of the school, that we know virtually nothing about the potentialities for truly individual learning" (Apps, 1:99).

Coolie Verner expresses his doubts about the efficiency and practicality of autonomous learning as follows:

Self-education is possible when an individual has sufficient insight and skill to define objectives clearly, to select and arrange a sequence of developmental tasks for himself and to manage and effectively direct his own progress with objectivity. Such sophistication is not ordinarily characteristic of individuals in need of learning, consequently the educational setting constructed by an external agent to make systematic achievement possible is still required in most cases in order for an individual to accomplish the needed learning (Tough, 183:78).

What is implied here is that true autonomous learners are to be found in the ranks of the highly motivated, singularly competent individuals found in the mid- to upper echelons of the professions, and management and commerce. Those learners who, because of personal or employment responsibilities must endure many constraints on their learning activities, are the majority, and are disinclined, even fearful, to take responsibility for their own learning since doing so is a more arduous task than studying a fixed body of knowledge, with prescribed textual material, all distilled and expounded by an instructor.

While there are a number of educational institutions that have encouraged adults to teach themselves, the Brooklyn
College program was one that came under particular scrutiny. Stern, commenting critically on the program concluded that the learner cannot achieve all learning objectives without a "real teacher." Stern believes that

At least one major objective of liberal education can be obtained only through inspiration by a personal involvement with a dedicated teacher and not through mere books, syllabi and laboratory exercises. If the goal of a college education is to be achieved, even by accelerated methods, there are obviously limits to the use of independent study, exemption examinations, programmed instruction and things of that ilk (Tough, 183:18).

In their appraisal of the Brooklyn College program, Liversight and Crow had the following to say:

Limits were soon discovered in the degree to which independent or informal study could substitute for instruction and interaction with faculty. Even these highly selected and superior students tended to flounder when left too much to their own devices. The students themselves recognized this and expressed their views .... They called for more tutors and more group study (Tough, 183:19).

The role of educational institutions. From what has been shown in the foregoing discussion, we see that educational institutions fulfill different roles and in varying degrees in their service to the adult learner. It is not possible to conceive the entire abandoning of institutional association within the learning process, since truly autonomous learning is at best an occasional event engaged in by a limited number of individuals. The critical point is that all learning that takes place for vocational or professional purposes has to be legitimized by the conferring of some sort of credential attesting to the learner's having attained an acceptable level
of competence. Looked at from this perspective, it is evident that a validating institution qualified to establish learning standards and to evaluate learners' level of accomplishment, is an indispensable component of the collective educational process. For the foreseeable future, the validating function will remain within the ambit of the educational institution acting either in its own right or as proxy for the professions or government; this, regardless of other roles the institution may adopt.

Accommodating the needs of the lifelong learner requires educational institutions, in many cases, to re-invent themselves in response to the character of their adult learning constituencies. This might result in radical change or simply the embodying of an amalgam of non-traditional concepts.

The institution's traditional role. This refers to traditional classroom settings, with virtually no deviation from the long-practiced pedagogic model. Programs are pre-planned, curriculums are standardized, examinations are scheduled, library facilities are available, and teaching is conducted on a full- and part-time basis. Evaluation systems are reasonably uniform, and credentials such as certificates, diplomas and degrees are awarded.

The institution's non-traditional role. It is one that specifically addresses the needs of the adult learner. There are many non-traditional modes. Some of the more prominent ones are as follows:
The non-teaching university establishes curriculums and conducts examinations, but offers no instruction. Historically, this was the role of the University of London which, in 1858, provided for external degrees and accepted as candidates all who presented themselves for examination, provided that they had passed the matriculation examination.

Another example is Regents College, a constituent college of the University of the State of New York, which operates on the same basis. Admission criteria are not stringent.

The Distance Teaching University, exemplified by Athabasca University in Canada, The Open University in the United Kingdom, and Fernuniversitat in Hagen, Germany, These institutions employ instructional methods, including sophisticated educational technology, to reach students at a distance. These institutions have no campus.

University Without Walls, a concept that allows adult learners freedom to establish their own learning plans and to be substantially free from constraints of time and place. Evaluation is by demonstrated competence, and admission criteria are non-stringent. The learning environment is wholly based on andragogic principles. Facilitation, counseling, consultation, and partnership
are emphasized.

**Personalized System of Instruction (PSI)** has several variants, but the original system, introduced by Keller (93:79) is highly structured but departs widely from conventional teaching procedures. PSI provides substantive support for the concept of self-teaching. The "teacher" acts as a counsellor and learning manager. The distinguishing characteristics of the system are:

* the student is self-paced
* the student proceeds to new material only after demonstrating mastery of that which preceded
* Lectures and demonstrations are for motivation, not critical information.

Many andragogic principles are employed in this system.

All of the foregoing modes involve the learner in greater or lesser amounts of self-teaching. However, it is done under the aegis and guidance of an educational institution and is therefore not truly independent or autonomous.

**Summation.** The need for, and the direction of change in the educational system to accommodate lifelong learning strategies and philosophy have been demonstrated by the work and recommendations of the various task forces and commissions of inquiry to which we have previously referred.
Changes are taking place in response to the growing demand for the provision of, and access to, lifelong learning opportunities. This demand is resonating throughout the public and private sectors of the educational system. Changes in philosophy and method have given us the andragogic school; Information Technology has increased education's outreach to learners at a distance; new teaching and learning methods, including self-teaching, are being researched and implemented, and have given rise to a new genera of institution - the DTU and the non-campus college, the non-teaching university.

In spite of itself, the educational system seems to be evolving according to the law of supply and demand. Faure's call for the establishing of an entirely new type of institution, for de-institutionalizing, and for a move to non-traditional methods is being answered. In Ontario alone, some 6000 students annually are learning through distance education, and the province's thirteen universities are now offering more than 800 distance education credit courses (Ontario Ministry of Education and Training, 128).

However, while independent learning - self-teaching - is being advocated and promoted as an integral feature of the nascent lifelong learning movement, it is not viewed with universal enthusiasm in academia or among adult learners. Beard and Hartley, and others, have observed that it requires a very competent student to be able to direct his or her
studies entirely independently (10:12). We might argue, therefore, that self-teaching or its variants is not particularly suited to the learning needs of the less able student. Nevertheless, greater use will be made of independent learning activities, and the educational institution will continue to mutate in its physical and organizational structure as it accommodates to the differing needs of lifelong learners.

Finally, we should not neglect consideration of the economic factors associated with the ideas and recommendations to which we have referred in this section. There are distinct cost advantages in non-traditional education: in distance teaching, individualized learning systems, and self-teaching. These things can have a seductive influence on the current political climate where economy at any cost is the order of the day. Care needs to be exercised by all not to allow economic issues to become dominant factors in the lifelong learning movement. It has been well said that the task is one of "getting the mix right."
COMMENT

This chapter has shown that adult teaching and learning require a unique philosophical perspective. It has been implied that there is a distinct point of departure from the how, why, and when of teaching young people into the complex concept of adult learning. Two philosophies of education are posited: pedagogy for the young learner and andragogy for the adult learner. However, we need to exercise caution when making sharp distinctions and convenient compartmentalizations like this. Andragogy is simply a neologism given to the Progressive School, based on the ideas and thought of Rousseau, Dewey, Russell, and Freire. This School advocated that virtually all of what we now accept as the principles of andragogy: learner centredness, facilitation, self-directed learning, exploration, and so on, can be embodied in the art and craft of teaching the young. Thus the ideology of the Progressive School applies to all sectors of the learning community, its form and style of implementation being skillfully graduated to harmonize with the maturity and sophistication of the learners served.

This gives grounds to argue against sharp distinctions and to favour a concept of naturally evolving phases along a learning continuum, thereby approximating to a single indivisible model, starting with early education and on
through life.

It is hard, perhaps impossible, to construct a common philosophical base for lifelong learning because of the complex nature of adult education. With age comes a plethora of variables: skills, attitudes, opinions, knowledge, experience, maturity, strengths and weaknesses. The best that can be done is to identify general guiding principles. It is reasonable to refer to these as andragogic principles to the extent that they are adapted to serving the adult learner.

The chapter has pointed up the pragmatic necessity of introducing a lifelong learning culture, coupling it with such economic issues as competitiveness in world markets, employment, standards of living, and so on. But these considerations are palpable, factual, and material. As educators, we are called upon to take a deeper and more synoptic view of the point and purpose of lifelong learning, as Skolnik does on page 26 of Chapter 2. A philosophical component is needed since, as citizens of a modern state, we have to be able to adjust to the increasingly artificial environment which business and industry is constructing around us, and the maze of intricate problems, personal and occupational, in which we are enmeshed. Lifelong learning should contribute to the continuing growth of the mind and an expansion of our perspective: only philosophy can give us this. This does not mean that educators become philosophers. It means that what is taught and what is learned ought to be
enriched by an appreciation of what constitutes intrinsic values, as well as an understanding of the "eternal verities." As the chapter has shown, this requires of teachers an understanding of the human experience.

As a facilitator, the "teacher" needs the sensitivity and the training to lead and to counsel, and the gumption to do so assertively if needs be. In teacher training it is too often incorrectly assumed that these qualities are intuitively known. A new dimension to teaching is emerging: teaching how to learn - getting people teaching themselves. The teacher as a role model, in my view, is a valuable legacy inherited from traditional education, that should be passed on. The literature shows exciting new technology, extending the outreach of education to many who would otherwise be denied it, but I am concerned that too many of us will be seduced by its claims of enhanced productivity and be led thereby to undervalue the personal influence of the teacher corps or the consummate benefits to be derived from group experience under gifted tutelage. No one wants, consciously or unconsciously, to be enslaved to silicon-based androids inhabiting computer work-stations which, conceivably in a quest for productivity, may be turning quality into quantity. Although we have all, from time to time, suffered poor teaching, most can recall having sat at the feet of a few Gamaliels.

It is recognized that the educational world is changing, and there is a movement towards a less monolithic, more
dispersed, system with a greater variety of choice. The new ideas offer freedom of entry, exit, and re-entry for youthful and older learners, thus putting out of the way many of the barriers to the creation of a learning continuum.

In all of the studies and reports reviewed in this and the previous chapter, the authors have offered some good suggestions for creating a lifelong learning system. Yet these ideas are but substitutions for action. None will do much good if implemented on a piecemeal scale. There have been many committees and task forces decades ago, and enough research has been done to at least make clear the steps towards achieving a lifelong learning culture. There has yet to emerge a substantive, holistic plan of action for the nation. There are systems such as PSI, FLEX-ED, and FLEXI-Study that were long ago developed independently by educators and scholars without the help of government agencies, systems that are wholly appropriate elements for inclusion in a properly integrated lifelong learning culture since they are based on the philosophy and method of the Progressive School. The required integration will come about only if authoritatively co-ordinated.

As to the perpetuation of educational institutions as we traditionally conceive them, they are changing reactively rather than pro-actively. Perhaps this is the right way to do it. Does it matter how it happens, as long as it happens? It is reasonable to predict that self-managed learning will be
increasingly practiced, and self-teachers will always call upon outside sources for some measure of assistance, even participating physically or electronically in formal instruction at or through an educational institution. Thus there is no sharp distinction to be made between self-managed learning and that managed, supervised, or otherwise facilitated by an educational institution. Presupposing the learner is not required to meet credentialling criteria, this is as close as can be got to autonomous learning.

Finally, while time and place factors are being addressed by technology, we should perhaps ask ourselves at what cost in terms of the raison d'être of the educational process. This caveat refers to the philosophical element to which earlier reference was made in this Comment. The need to temper pragmatism with ideology is yet another instance of "getting the mix right." System gives structure; structure, organization; organization, standards; standards, legitimacy.

Education's old order of things has much of value, and we have to resist change for change's sake, as well as the temptation to celebrate the advent of the 21st Century by a house-cleaning that could see the proverbial baby being thrown out with the bath water!
CHAPTER 4

The Legitimization of Lifelong Learning

Sub-questions:

I. What is the perceived status of lifelong learning compared with that of traditional education?

II. How is lifelong learning evaluated?

III. What assurance has the lifelong learner of the quality and eventual recognition of his or her studies, and what is the role of accreditation in providing such assurance?
I. What is the perceived status of lifelong learning compared with that of traditional education?

The status of lifelong learning. As has been previously shown, lifelong learning is synonymous with the concept of the learning highway by which individuals can maintain involvement in both purposeful and incidental educative activity throughout life. While lifelong learning is widely advocated and generally accepted, it is the synoptic view of the concept that is being promoted; some of the constituent components of the lifelong learning movement are not as well regarded, for reasons which will presently be addressed.

There are definitional problems associated with the term lifelong learning, because under its rubric learning activity can take place in various modes in either traditional or non-traditional settings. Learning activity in the traditional setting includes campus programs, continuing education, open learning, and guided independent study. For each of these learning modes there is to be found both support and opposition. Distance education is a dominant mode in the non-traditional setting where a high degree of open access is the goal. While increasing in general acceptance as a bona fide educational system in its own right, distance education has its critics.

We will examine some of the real and perceived reasons for the lesser esteem ascribed to lifelong learning, whether it be in a traditional or non-traditional setting.
Pike has noted that the status of the part-time undergraduate student within the academic pecking order of provincial universities has been that of "second-class citizen" (140:65).

It has been said of post-secondary education that in not many institutions do adults and part-time students enjoy the status accorded full-time learners, nor do they have their programs specially tailored to their needs. Furthermore, in some cases this low status is "reinforced and symbolized by the fact that the teaching of most (part-time) courses is organized on an overload basis, as an extra activity for staff pursuing salary supplements" (Ontario Ministry of Colleges and Universities, 123:23). To what extent the foregoing is detrimental to students' learning is not clear from the literature. While the situation does tend to portray a certain aloofness on the part of the institution in its attitude towards serving part-time students, we should not infer that students are disserved academically.

The Report of the Commission of Inquiry on Canadian University Education, 1991, substantially underscores Pike's observation in the following comment: "There is still an apparent reluctance to welcome continuing education into the heart of the university's mission. Professors who teach these courses .... can expect little if any credit when it comes to promotion and tenure" (Association of Universities and Colleges of Canada, 4:81). The Commission found that there
are successful ("successful" being undefined) continuing education programs at many Canadian universities but noted that, in view of the enormous potential in the field of continuing education, institutions are only scratching the surface (ibid.).

When lifelong learning takes place in a non-traditional setting there is a pejorative nuance that the educational process, particularly if it is of an innovative nature, is somewhat below par in the context of generally accepted educational practice. Speaking of the perception of the status of non-traditional education in the United States, Melvyn Suhr, President of Sierra University, an independent liberal arts institution in Los Angeles, has this to say:

Institutions and persons involved in innovative higher education seem to be immersed in a ... never-ending struggle for recognition and survival. The monopolistic control exercised by the accrediting agencies is very effective in preventing new and philosophically diverse institutions of higher learning from joining the controlling sororities and fraternities that effectively perpetuate elitism through funding sources and institutional acceptance of degrees. An alternative to the status quo must demonstrate its credibility in terms and rigor understood by the mass of public support (167:13).

The perception of which Suhr speaks is pervasive and is typified by inter-institution rivalry and the disinclination of some universities and colleges to accept for full credit transfer, similar courses offered by sister institutions. Furthermore, while allowing the legality of some avant-garde institutions, legitimacy is subtly denied through the traditional institutions' prerogative to not "recognize" the
learning undertaken at, or under the aegis of, the non-traditional institution.

Arthurs says that "The norms by which legitimacy is measured are as vulnerable to challenge as the derivative conduct which .... is being evaluated; appeals to legitimacy are mere expedient attempts to mystify, and thus disarm opposition"(2:5).

Simply put, non-traditional educational methods and institutions suffer the lack of having a "brand name." Such was the case with Britain's Open University in its early days, and with Canada's Athabasca University, both highly innovative institutions having no campus, and conducting all educational activity by distance teaching methods. The U.K.'s Open University in particular was, when it began, the object of severe criticisms, even contempt. This has changed, and while distance teaching - although a dominant mode in the lifelong learning movement - still has some way to go to attain perceived parity of esteem with traditional education, institutions such as The Open University in the U.K., and Athabasca University in Canada are moving toward "brand name" status. The open admission policy of some non-traditional institutions (that is, applicants not being required to have prior academic qualifications), creates scepticism concerning the academic stature of such institutions.

Employers who rely on formal educational qualifications in their recruitment of personnel are less than happy with the
idea of being confronted by an "unknown quantity": the applicant who has studied independently, or by distance learning via an institution that is not widely recognized. Nevertheless, business and industry are changing their attitude and are coming to regard information and learning as a factor of production - human capital - that takes its place alongside the conventional land and labour. There is therefore more focus on demonstrable competence as the arbiter of potential contribution to the organization, and lesser weight assigned to a credential.

Distance education epitomizes non-traditional learning, and while there is some opposition to it as a vehicle of primary and secondary education, it is enjoying increasing prestige in university and college-level education. This is evidenced by the success of the Distance Teaching Universities (DTU's) like UKOU; Athabasca University, Canada; Fernuniversitat, Germany; Everyman's University, Israel. Furthermore, some highly regarded traditional universities now conduct distance-taught degree-credit studies via their own distance teaching divisions.

Impediments to the development of lifelong learning. The literature shows there are many barriers to be removed in the development of a national lifelong learning system, not the least of which is the achieving of the political will to set up an integrating structure. Yet even this is subordinate to the opposition and temporizing to be found in academia and
some professional associations when faced with the wide departures from conventional practice that lifelong learning can involve.

The problem, as Apps observes, has to do with the acknowledgement of the authenticity of lifelong learning. He sees the core of it to be stability versus change, and the consequent tension that exists between those who wish to maintain the status quo and those who pursue a non-traditional approach to lifelong learning (1:15). Would-be learners, too, are hesitant to participate in learning methods that, in their view, depart widely from conventional norms.

To make this point, we will look at part-time learning in a traditional setting, and distance learning as an example of a non-traditional setting.

Part-time graduate programs conducted in a traditional setting are oriented towards the norms of full-time residential study. The standards of good practice for graduate work tend to be stated as if full-time study were the norm. Numbers of graduate schools seem insensitive to part-time students' greater maturity, larger knowledge base, and the employment responsibilities they carry. Such students represent the majority of all those engaged in advanced study. An increasing proportion of graduate students are part-timers (CAEL, 42:2). These are the learners likely to be most responsive to non-traditional andragogic methods, the validity of which is a matter of differing opinions among educators in
the traditional system.

Professional people seeking to advance their skills criticize continuing education conducted via continuing education arms of traditional institutions on the grounds that the emphasis is on time-serving rather than attaining competence (ibid.). Furthermore, there is, as Pike points out, a resistance by professional associations to part-time study in professional programs because of the requirement for participants to engage in practical work (140:91). The incorporation of appropriately sophisticated practica poses a difficult and expensive problem. Nevertheless, since continuing education is likely to become an important criterion in the re-licensure and accrediting of professional practitioners this problem has to be solved if lifelong learning is to realize its objectives.

As for distance education, for all that is being said in its favour, and the studies that testify to its validity, there are educators who are not yet persuaded, believing as they do that the transience of novelty and the placebo effect are factors insufficiently accounted for. Sweet says that

Some academics still claim that distance education lacks legitimacy, arguing that it can give the shadow but not the substance of a university education, that it provides pre-digested instruction rather than open-ended dialogue that is the essence of good education, and that its standards miss (the) intangible but priceless benefit of (being on campus) (168:198).

Some of the grounds most often quoted by educators in conventional institutions for their opposition to distance
learning are given by Neill. They are:

* The achievements of distance learning systems could only be inferior and second best to those of conventional systems.

* Distance learning inevitably leads to a reduction in academic standards in the subjects dealt with and the quality of the teaching.

* Certain subjects cannot be learned satisfactorily through distance learning (i.e. medicine, science, technology, engineering).

* In higher education, open access distance-learning systems would lead to over production of people with degrees (116:40).

Some of the foregoing objections are being answered by the spectacular advances in educational technology, as will be seen in a later chapter of this investigation. There are some, however, that are proving less tractable, specifically the making available of appropriate practica in engineering and other applied science programs.

Other impediments to lifelong learning include the wide departure from traditional norms by some innovative institutions, exemplified by such practices as the granting of academic credit for a wide range of life experiences, e.g. community service, in-service training, volunteer work. This is proving to be a controversial issue, and there are as yet no formal guidelines.

Andragogic learning, self-teaching, and credit transfer for college work to university all are currently either in an exploratory stage or are being tortuously debated.

Turning now to the learners themselves, it is obvious
that they have concerns about the lack of real and perceived parity between part-time and full-time studies. Their confidence in the academic value of lifelong learning cannot be high until the movement attains the implicit endorsement of appropriate government bodies, professional associations, employers, and informed public opinion. Waniewicz' survey showed that, although considerable interest in self-teaching was shown by adult would-be learners (cf Chapter 3), a significant number indicated a preference for learning by the traditional in-class and lecture method (193:177). For lifelong learning to develop along the grand scale lines its advocates believe it must, the learning public has to be won over to it, and a public demand for it created.

This is confirmed in the Government of Canada's Action Plan for Canada's Prosperity, 1992, when it states that

Change in our education and training systems will not happen .... unless Canadians themselves make an active commitment to learning throughout life .... This means that each of us must take an active interest in the improvement of our education and training systems .... A commitment to lifelong learning has to be encouraged (Canada. Steering Group on Prosperity, 27:50).

The status of traditional education. What has been said so far leads to the conclusion that, if it is to attain credibility, innovative, non-traditional educational activity has to comply with, or adapt to, some ephemeral benchmark of academic performance of which traditional educational institutions are viewed as the sole repositories. Although it is right to question the efficacy of innovative educational
methods and the credibility of non-traditional private sector institutions, there is an equal need to do the same with traditional universities and colleges that are supported by public funds.

It should be borne in mind that traditional educational norms have their origins in the education of young learners — preparing them for employment and helping them develop life skills. These are not the foci of adult learning. Thus the norms of traditional education are an inappropriate standard of reference for lifelong learning.

The current status of traditional education from primary to tertiary levels gives cause for concern. Commenting on university education in general in Ontario, the Bovey Commission states "it would be wrong to convey the impression that all is well - it is not" (Ontario. The Commission on the Future Development of the Universities of Ontario, 131:4). Concerns about the quality of instruction and research have been raised by those in universities and in the corporate sector. The Commission also stresses the need to deal expeditiously with the demands of non-traditional students, that is, adult learners, native peoples, and others who are inadequately served (ibid.).

There is an unwillingness by universities generally to award sufficient status to teaching rather than to research. Students have indicated their dissatisfaction with the lack of graduate level courses, and the difficulty in obtaining
transfer of credit between universities and colleges. This interferes with the attainment of students' objectives, particularly those of older learners (Association of Universities and Colleges of Canada, 4:81-85).

The pressing need for Canada's education system to examine and re-evaluate itself is to be found in the disturbing information that too many first-year university students have to take remedial mathematics and literacy courses to enable them to profit from university education. Also that in a recent international test in science, Canadian students were outscored by their counterparts in most countries (Canadian Ministry of Supply and Services, 24:5).

Commenting on university entrance criteria, Bercuson et al say that standards have been lowered to the point where almost every high school graduate is eligible to enter university at a time when it is clear that high school grades are being inflated (11:149).

These are not encouraging observations, particularly in view of the fact that Canada spends 7.2% of its GDP on education - the highest percentage of any developed country. Add to this that, compared with other countries, Canadian students spend little time on learning. The average public school student watches about 1000 hours of television per year but receives 900 hours of instruction (Canada. Steering Group on Prosperity, 26:35).

It is clear why lifelong learning is being promoted as an
urgent strategy, and is capturing the attention of government, and business and industry. Because of the statistical evidence pointing to underperformance in the traditional system, the lifelong learning movement will likely be forced to devote considerable time and resources to compensatory educational activity. If primary and secondary education is proving unable to bring learners to international academic performance standards, (and assuming there is validity in the human capital theory), Canada heads for a parlous economic condition. Evidently traditional educational norms have deteriorated, but why? Have they suffered while our educational system has preoccupied itself with the cause of democracy - a worthy end - and done so in such a way that the cause of excellence has not been served? The problem cannot be wholly laid at the door of inadequate funding. An educator said some years ago that "you will not get better education simply by throwing money at it." The answer is to be found in organization, as was stated in Chapter 3. Although he was speaking about universities and colleges, Walter Pitman points to the crux of the problem in saying that "lack of organized structures .... result in many inefficiencies from the individual and societal points of view" (Ontario Ministry of Education and Training, 128:26).

The organizational work required in the development of a lifelong learning culture for Canada provides both the opportunity and the reason to bring homogeneity to the
educational system, by the absorption of traditional and non-traditional ways free from academic fiefdoms and outmoded concepts. This ought to bring legitimacy and relevancy to every step of the way along the learning continuum. To the same degree that traditional education either creates the perception, or gives evidence, that it is not attaining the norms required of it by an evolving global economy, the legitimacy of the lifelong learning movement, of necessity, will be enhanced as it establishes its own user-driven norms in the context of leading edge learning modalities.

Furthering the legitimization of lifelong learning. Apps sees there are no simple answers to the problems associated with the development of a continuum of learning and the legitimization of lifelong learning. He believes, quite rightly, that people must be satisfied as to the credibility of lifelong learning through demonstrated evidence (1:15). These observations are unlikely to be disputed; however, the problems to which they refer have to be dealt with, and many are, in fact, being solved by technology. The literature points to much thought and effort now being directed toward the legitimacy aspects of a learning continuum.

The need for workers and professionals to maintain state-of-the-art skills is met by continuing education in different modes. The results of this are demonstrably positive and thus give a de facto, functional legitimacy to the specific learning experience. The re-licensing of professional persons
is linked to the re-assessment of their competencies in the light of sometimes dramatic advances in the state of the art. This drives professionals to engage in periodic episodes of professional updating, thereby stimulating wider interest in the lifelong learning movement, giving it momentum and credibility.

In looking at lifelong learning from the perspective of the work-place, the Faure Report suggests that the employer should give appropriate recognition, including some form of certification, to the adult learner for continuing study. The Report also recommends that employers should facilitate the inclusion in collective labour agreements, of clauses stipulating the manner in which technical or professional qualifications acquired through continuing education are taken into account in determining the employment category and in establishing the level of remuneration. Employers who conduct extended in-house training sessions in subject areas of some sophistication should award a certificate attesting to the employee's having demonstrated the required level of skill and having been authentically evaluated (UNESCO, 189:50(b)(c)). This would enable employees to satisfy third parties with regard to the content, duration, and rigor of their learning. This concept is in harmony with that proposed by the Task Force on Lifelong Learning and the New Economy. The Task Force calls for the development of prior learning assessment which, inter alia, will allow learners greater mobility
amongst a broader range of learning activities. The introduction of a "learning passport" is suggested as a means of obtaining official recognition of a wide range of learning episodes (Ontario. The Premier's Council on Economic Renewal, 130:12). The idea of a "learning passport" is one having particular promise in facilitating the development of a continuum of learning since it suggests a method of reducing the bureaucratic practices extant that surround course credit equivalencies. The "passport" or its equivalent is the sine qua non of learning mobility. In and of itself it would represent a legitimizing document.

In the matter of portability or transferability of credits obtained part- or full-time via an educational institution, articulation agreements between institutions have shown that the actual amount of credit awarded a learner by the receiving institution dramatically increases (Ontario Ministry of Education and Training, 128:132).

A further step in this direction could be taken by establishing articulation agreements between professional associations, and universities and colleges.

Legitimacy of lifelong learning episodes is occurring by osmosis. The Pitman Report says that there is a movement towards recognizing for credit, learning acquired outside the traditional classroom, often in the work-place setting. Also, the needs of the part-time learner (parent, full-time worker) are being recognized in the changing admission and
registration requirements of (some) open universities, colleges and institutes (ibid., p.138).

The Commission on Post-Secondary Education in Ontario, in its prescient Report in 1972, was saying virtually the same thing, i.e.

Society should broaden its concept of significant learning to include experiential components. These alternatives to formal education should be legitimized, widened, and recognized by the granting of academic credit in appropriate cases. There should be new approaches to continuing education through which alternatives to formal post-secondary education should be made available and non-traditional settings recognized (Ontario Ministry of Colleges and Universities, 123:110).

The Commission called for "parity of esteem among all forms of post-secondary education .... and the awarding of degrees and diplomas for learning undertaken within institutions and for comparable achievement without" (ibid., p.50).

Distance education, as has been shown in Chapter 3, is a quintessential non-traditional mode of the lifelong learning movement that is gradually achieving legitimacy in its own right, partly because it has a rational raison d'être and also because it is being espoused by prestigious traditional institutions worldwide. As far as the quality of education available via distance teaching, this is a topic of diminishing controversy. While a degree obtained by distance education may still be perceived in some quarters as not having parity with one earned "traditionally," this is becoming an increasingly unsustainable point of view.
The attitude of employers toward the value of non-traditional credentials, specifically the degree, has been demonstrated by the results of a large-scale survey conducted by the U.S. Department of Health and Welfare. Personnel officers in 81 large corporations felt, by an overwhelming majority, that a non-traditional degree was just as useful as a degree from a traditional institution. The survey results suggested that employers are not overly concerned with the institution. The survey also showed that about 20% of the holders of non-traditional degrees decided to go on to higher studies. Of these, 97% were admitted by the traditional graduate school of their choice (191).

The foregoing presents a favourable perception of non-traditional education, and there seems to be little question that participants and their employers accept non-traditional learning as being educationally viable.

Non-traditional concepts are clearly and inexorably coming on stream. The Bovey Commission implicitly endorses non-traditional learning in its Recommendation #12 where it calls for close co-ordination of the existing variety of distance education programs (Ontario, 131:37). Also, the Task Force on Lifelong Learning calls for the reforming of the traditional distinctions between full- and part-time learners and between credit and non-credit programs (Ontario, 130:12).

**Summation.** The status of lifelong learning modulates with the method. Full-time learning at a prestigious
educational institution obviously enjoys the status of that institution. Yet such status should not be regarded as an immovable benchmark. The quality of education received at that institution could significantly deteriorate before the perceived status of the institution reflects the decline: an example of "giving a dog a good name." On the other hand, lifelong learning episodes undertaken in non-traditional settings such as distance education, independent study, or proprietary vocational institutions, generally have statuses of a lesser and more variable degree. Status is congruent with "recognition," and what those terms really mean depends upon an admixture of fact, opinion (personal and/or public), and political expediency.

The final arbiter of status has to be demonstrable competence. Employers and government-initiated commissions testify to this by linking lifelong learning with economic growth. This new age status is palpable and pragmatic—less Ivy league, more red brick.

There is a shift in this direction, and the literature speaks of the desirability of individuals being offered opportunities to acquire knowledge in many different contexts, and being accorded the rights and qualifications equivalent to those granted by traditional systems of education. This is, in fact, coming about with leisurely linearity, yet some ambivalence exists on the part of employers and educators. Lifelong learning surely requires an organizing and
integrating agent to get it through its adolescence.

II. How is Lifelong Learning evaluated?

The purpose of evaluation. Standards in education are the fundamental elements of quality control, and in lifelong learning, as in traditional education, the quality of the learning experience is determined by evaluation. Thus the legitimacy of a learning experience depends upon the degree to which it is evaluated, and the credibility of the evaluation process.

Evaluation means the examining and weighing of the worth or value of a learning experience against some implicit or explicit yardstick. The data obtained from examining the learning experience before, during, and after it provide a comparative basis by which the effects of the experience may be judged.

The purpose of evaluation is to let us know if the learning objectives were achieved; if the experience should be changed in any way; how difficult or easy it was for the participants; if it was cost-effective; and, if the learning relates to the learner's employment, what tangible benefits accrued to the learner and his or her employer.

The problems and complexities of evaluating lifelong learning. Conventional evaluation methods are applicable in lifelong learning only insofar as the learning episodes are traditional in form. Where learning is non-traditional, as in distance learning or contract learning, or is experiential or
autonomous, conventional evaluation is either inapplicable or inadequate. The different purposes for which individuals engage in lifelong learning episodes each possess specific criteria governing the educational standards associated with these purposes.

The literature indicates an awareness of the need for a generally accepted appraisal system for lifelong learning, but points to entrenched attitudes and practices standing in the way of the idea. As we earlier observed, there is a significant difference between the philosophies of traditional and non-traditional education which has to be taken into consideration in any attempt to develop a unified system of quality appraisal. There is also the added complexity which the long-established credentialling criteria imposed by the professions introduces. These cannot be excluded from any plans for the development of a widely accepted appraisal system (Houle, 86:268).

At this point in time, the concept of such a system is without a blueprint. Even before an attack can be launched on the problem of evaluating the totality of the learning experiences in which the lifelong learner might engage, there exist deficiencies in some areas of the conventional quality control of learning that cannot be ignored. The Ontario Government's publication Vision 2000 draws attention to the need for system-wide standards for the monitoring and improving of the educational quality of college programs.
Another barrier to the lifelong learner is found in the "jungle of regulations" extant that are associated with the accepting and transfer of credits from and to other educational institutions (Vagianos, 192).

Other systemic problems inhibit the development of a viable, coherent lifelong learning appraisal system. They are found in the inherent unreliability, in one way or another, of most conventional techniques of learning evaluation (Beard, 10:226). Adult learners are not adequately served by the formalized evaluation processes of traditional education. Indeed, they are averse to them. As Poud and Griffin observe: "We need to find ways of assessing the learning that not only maintain the importance of the objectives but which are palatable to adults" (13:199).

The prime objective of the lifelong learning participant is the enhancing of his or her competency, thus evaluation becomes the not-so-easy task of trying to obtain a reasonable measure of what he or she can do; that is, how well the behavioural objectives purposed for the particular learning experience have been achieved. For the sake of simplicity and accountability, there is a temptation in adult education to lean towards conventional knowledge testing procedures and to downplay investigation of the learner's competencies. This flies in the face of andragogic method and philosophy. If the learning experience has to do with the learner's job, and that job is part of an enterprise whose overall objective is
financial success, the learning should be evaluated in terms of the degree to which it contributes to the objective of the enterprise. The ultimate judgment of the effectiveness of the learning experience in such a case, rests with the employer or some substitutionary agency acting on the employer's behalf: a professional or paraprofessional credentialling body.

There are two particular problems to be dealt with in lifelong learning evaluation. The first, a complex one, is that of harmonizing the standards and competencies sought by employers, credentialling agencies, education providers, and learners themselves. The success of a unified appraisal system depends upon the extent to which this can be achieved.

The second: Now that adult learning is being broadened to include a wide range of experiential learning, a further complication arises in that its educational value as a contributive component in the context of a larger learning objective is hard to determine; a subject to which we will later return.

Evaluating adults' learning. Kirkpatrick's concept of the evaluation process is consonant with andragogic principles. He sees evaluation as comprising a sequence of four logical steps which, in combination, give an integral assessment of the learning experience. The steps are:
1. Reaction Evaluation.
2. Learning Evaluation.
4. Results Evaluation (Craig and Bittel, 44:87-112).

In Reaction Evaluation, information is obtained about how participants in the learning experience are responding or did respond. In computerized programs, this information is immediately available.

In Learning Evaluation, information is obtained by pre-testing and post-testing learning episodes, and shows what facts, principles, and techniques have been learned.

In Behaviour Evaluation, an assessment is made of the degree to which the learning translates into behaviour in the field - the employment environment.

In Results Evaluation: Here we are looking for specific, tangible results that convincingly attest to the learner and/or the employer that the learning experiences have been worthwhile. For example, improved quality and quantity of production, reduction in grievances, reduction in absenteeism, more innovative activity resulting in the securing of more patents, and so on.

By subsectioning evaluation, as Kirkpatrick has done, we are able to convert a nebulous generality into four achievable goals. His conceptualization provides accommodation for the evaluation of adult learning in its many settings: the
classroom, the work-place, independent, and autonomous learning, as well as learning for purely personal development. As an illustration of the application of the four steps, let us see how they relate to specific examples of adult education evaluation procedure.

Reaction evaluation in the classroom or distance taught setting is commonly by way of student opinion obtained by questionnaire or freely written personal assessments of the course(s), as well as comments on the effectiveness of the teaching. Universities and colleges have long ascribed particular value to students' opinions of the course(s) they have taken or are taking, and, on the whole, it appears that teachers and students make useful calibrations in their personal relationships, and in the subject matter being presented. The relationship between the adult learner and his or her "teacher" should, according to andragogic principles, support a full and frank exchange of viewpoint on course objectives, content, and organization.

Learning evaluation is typically by means of two or three term papers on aspects of the course that learners consider of particular interest or value to them. Other methods include open-book take-home examinations time-limited to one or two weeks; book reports; in-class Brains Trust panels; case study sessions, and problem solving groups.

Behavioural evaluation. Here there are several options open for students singly or in small groups to give evidence
of enhancements of their competencies, such as preparing and giving a seminar that is evaluated by the class and the "teacher"; submitting to a viva based on two or three practica in which the student has been engaged or for which he or she was responsible; undertaking a survey using appropriate research methodology and presenting the results to his or her peers for study and discussion, and eventual evaluation.

Results evaluation is difficult and generally indeterminate. In essence it amounts to post-program analysis and involves collecting data by interview and/or questionnaire from graduates and employers. This is a highly subjective phase of the four-step process since appropriate instruments of measurement are hard to devise. In the long term, useful feedback might be obtained from local or national statistical data sources. If, as a result of learning experiences, the participant retains his or her job while all around are losing theirs; or the participant obtains advancement in status and income, and the employer is supportive of the continuing education of his or her employees, one might reasonably assume this to be an implicitly positive evaluation.

For those individuals whose lifelong learning episodes are directed towards personal development, or who wish to self-teach, their learning is loosely structured. They plan and carry out their program completely on their own terms. Clearly, they must evaluate their own learning experiences, and do so broadly according to the four-step concept just
described. It is desirable, and even essential, for lifelong learners to develop a capacity for self-assessment, since to be able to do so realistically is an essential component of professional practice. As we shall see in a later chapter in this investigation, much self-assessment is built in to computer-assisted learning. Self-assessment is a highly private activity, and consequently little information can be derived that gives external insight on goal achievement and educational gains. Thus significant quantitative measures of the efficiency of self-teaching are not possible. However, if the goal of the self-teacher is to succeed in passing the qualifying examination of an external credentialing agency, his or her success validates the self-teaching activity.

Evaluating experiential learning. There is a non-traditional move toward recognition of knowledge gained outside the classroom as being worthy of academic credit. As more students get credit for what they have learned from life, their employment, and other educational agencies outside the traditional system, concerns are expressed and disputes are developing over whether such an approach represents sound educational policy or is a gimmick for raising enrollments (Maeroff, 103). Even though more universities and colleges are awarding academic credit for prior learning experience obtained from all of the sources mentioned above, there is no generally accepted procedure for evaluating the academic worth of such experiences, nor do any common guidelines exist. This
is a lack that is inhibiting the development of what could be a significant facilitation of the lifelong learning process. It is around this problem that much of the differences of opinion of awarding credit for experience is centred.

Many educational institutions have given credit for experiential learning without engaging in the hard tasks related to determining whether the experiences were relevant to degree goals, or were of a higher educational level. Obviously, this kind of weakness brings discredit on the whole concept. Suhd has observed that

Almost all accredited universities in this country (U.S.A.) give credit for life experience and have done so for the past 35 years. What is a fascinating piece of irony is that many offer life experience (credit) out of a sense of patriotism without regard to academic validity. Most institutions will give at least six semester units of credit for military service. Immediately after World War 2, many institutions gave as much as 32 semester units credit for military service (167:5).

As the lifelong learning movement has advanced, so the principle and process of evaluating experiences for credit has increased its legitimacy. Educators who favour the practice agree that one of the best models is Empire State College of the State University of New York (Maeroff,103). This was one of the first schools to give credit for experience when it opened in 1971. The average student receives credit for almost a full year of college work. The method used for evaluating experience involves students' preparing a detailed portfolio, which they do in consultation with members of
faculty. This portfolio contains information on prior learning, and documentation such as letters from former employers attesting that the student performed certain duties. Professors and outside consultants assess the portfolio and interview the student; a decision is then reached as to how many credits will be given. Even so, there still remains the difficulty of achieving uniformity of assessment in the process because it is subjective and qualitative.

Seeman approaches the problem from a somewhat different perspective. He maintains that there must be a change in focus from the fact and act of the experience to ways of assessing if "education" and "learning" have been derived from the experience (155:37). He argues that only some experiences had in some ways, are educative and provide learning of value; and that credit should be awarded only for demonstrable ability to process experience and transfer cognitive and affective perceptions. He puts forward the following methodology based on these precepts.

The student should be able to demonstrate five general competencies:

1. Identify aspects of the experience.
2. Find appropriate language for that which is identified.
3. Discover various relations in the experience.
4. View the experience from other perspectives.
5. Apply the experience(s) to new situations and evaluate outcomes (155:38).

Seeman's concept makes the demonstration of competence by the student the decisive arbiter in the evaluation of experience; it dilutes the subjectivity inherent in the whole process and is a uniformalizing component in the assessment.

While the Empire State College paradigm has helped legitimize the awarding of credit for experiential learning, the methods of assessing experience represent procedures that are a considerable departure from traditional practice, and are therefore the cause of differences of opinion. However, there is increasing consensus that experiential learning, per se, has an integral part to play in the lifelong learning movement. There is support for the deliberate inclusion of experiential learning in continuing education programs (Houle, 86:223). The Commission on Post-Secondary Education in Ontario says essentially the same thing:

In its various forms, lifelong learning suggests an increasing interplay and integration of learning within work. Where possible, the design of curricula should facilitate this trend. Accordingly, formal programs in universities and colleges should be more fully integrated with opportunity for experience and practice, so that pertinent practical experience gained outside formal institutions may be substituted for laboratory and practical work. At the graduate level, institutions of post-secondary education should be encouraged to create programs that will permit students to include and integrate into their course of study, related research pursued in industry or government (Ontario Ministry of Government Services,123:14).

This is an idea wholly in accord with andragogic
principles and is exemplified to a large extent in Contract Learning. This is an experientially-based approach to lifelong learning that provides a structure within which learning experiences can be tailored to the needs of the individual student. This is a proactive way of generating experiential learning and allows some latitude to make the experience more amenable to evaluation. However, since the evaluation procedure itself is open to negotiation, as are the learning goals, problems arise that relate to achieving normative standards (Henderson and Hyre, 76:66).

Notwithstanding this caveat, contract learning shows a lot of promise as a significant component in the architecture of a lifelong learning system because the evaluation processes associated with experiential learning episodes help make new experience focused, purposeful and educative.

Johnson and Peterson take an extremely positive view of the use of the learning contract, even in the traditional setting, claiming, as they do, that "contracts can serve to stabilize the seemingly unstructured environment outside the classroom or laboratory, and thereby become a quality assurance instrument (ibid., p.69).

Evaluating distance learning. In traditional educational institutions a great deal of feedback on courses comes about informally and automatically as a result of interaction in the classroom between teacher and students. In a distance learning situation, this sort of interaction is either absent
or limited, at best.

Furthermore, studying outside a structured institutional environment calls for the development of evaluation techniques that monitor learners' progress under atypical patterns of studentship, an example being where students wish to pace themselves and self-manage their study programs according to their individual preferences with respect to completion time, writing examinations, or interrupting their studies for a while.

Evaluation in distance learning therefore comprises two tiers: The first is the evaluation of the study course itself, and the second, the continuing evaluation that gives students feedback by which their progress can be assessed and grades awarded.

The development and evaluation of the course precedes its formal introduction into the distance learning system. Careful pre-service evaluation of the course is essential because of the considerable fixed cost associated with the production and distribution of the learning materials which are usually specially written and illustrated. Such materials must have a "permanency" of several years if they are to be cost-effective. Obviously, to modify or revise them substantially would be expensive and disruptive. Courses developed by staff authors are critiqued by experts in the field. To avoid the course being too slanted towards satisfying the perception of the experts and less towards students' needs, course authors
act as tutors for a period of time in order to "fine tune" their own work before going into final production with the course (Holmberg, 81:174 et seq.).

The second tier, the continuing evaluation of students' learning, is concerned with how well the course helps the learners achieve their objectives. The methods of evaluation are various and include conventional examination procedure, conducted under the aegis of a college or university which schedules and supervises the examination sessions; time-limited and supervised open-book examinations; take-home examinations usually limited to one or two weeks; end-of-lesson objective tests mailed, faxed, or computer-transmitted to the distance teaching institution; term papers; oral examination by teleconference with a faculty panel; and any combination thereof.

The overall assessment of a distance learning program is made on the basis of such criteria as the time required to produce a graduate, and the number of graduates as a proportion of the number of students that enrolled in the program (Feasley, 59:48). However, non-completion of the distance learning program ought not to be regarded as failure. As Wedermeyer points out "Course completion is not directly indicative of the learner's achievement or of the accomplishment of his goals" (Holmberg, 81:183). While not shunning quantitative measures, the efficacy of a distance learning program is something for the participant himself or
herself to decide. A wholly statistical method is maladapted to gauging the success or otherwise of an emphatically andragogic educational enterprise.

The Continuing Education Unit (CEU). The purpose of the CEU is to provide a method of permanently recording an individual's participation in episodes of continuing education. The unit is defined as follows:

One CEU represents ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction.

In 1977, the Council on the Continuing Education Unit, a non-profit federation of education and training organizations, was incorporated in the United States. The Council's task is the overseeing of the proper use of the CEU.

Superficially, the CEU concept suggests a solution to the problem of uniformalizing the mélange of learning modes that lifelong learning represents. Unfortunately, it is not sufficiently inclusive to be able to do this to any significant extent, and therefore invites the observation that unless the problem is solved in its entirety it is not solved at all.

However, the unit's use is widespread in the United States, its main purpose being to serve as an "attendance register" rather than as a comprehensive evaluative instrument, which its definition patently would not allow.

Probably the strongest argument against the CEU is that it is not capable of being standardized in terms of quality or
integrity of sponsorship. The validity of the unit is open to question because there is no strong legitimizing body that accredits institutions permitted to award the CEU. Houle notes that "the CEU has sometimes been mismanaged or incorrectly perceived, and institutions of dubious quality or questionable motives have awarded it" (86:242). This undermines the credibility of the unit. Furthermore, the definition of the CEU implies, as previously indicated, that the CEU is substantially a measure of "time serving" and therefore gives no assurance that a learner's competencies have been enhanced. In spite of the flexibility claimed for the CEU as a determinant of the extent of participation in continuing education activity, the Council on the CEU limit the unit's use in that it is not considered equivalent to academic credit, it is not applicable to work experience or unsupervised study, nor is it awarded for attendance at conferences or conventions. Without debating the merits or demerits of such exclusions, it needs to be recognized that they represent significant components in lifelong learning experiences.

Despite the CEU's limitations as a measure of lifelong learning activity, the unit has been accepted by some credentialing and funding agencies (Houle, 86:241). Even the engineering profession is giving a measure of acceptance to the CEU concept. As recently as November 1995, the Institute of Electrical and Electronics Engineers newsletter reported
that in Alabama the Registration Board of Professional Engineers and Land Surveyors have proposed that an engineer complete fifteen professional development hours (PDH) to qualify for renewal of a P.E. license, one CEU being convertible to ten PDH units. PDH units can be obtained through seminars and workshops conducted by the professional association section and chapter meetings. It seems possible, therefore, that the CEU might mutate to a PDH unit.

The Institute of Electrical and Electronics Engineers newsletter, *The Institute*, Vol.20 #1, January 1996, published the responses of several professional engineers to the Institute's request for opinions on continuing education and its evaluation for engineering professionals. Two of these responses are quoted below because they poignantly illustrate the practitioner's perception of the value of continuing education in the context of an activity organized and evaluated by external agencies.

Professional education should not be confused with maintaining competency. A good engineer can read a magazine and increase his competency. The only benefit from a requirement to show professional development in the form of CEU's would be the few jobs created as businesses are formed to offer worthless courses so (that) engineers can satisfy the bean counter (Professional Engineer in Vermont, U.S.A.).

Continuing education, or rather continuing learning, is vital for engineers, but it should not be limited to attending a course at a university or college. Growing with the company, searching for solutions, seminars, conferences, and plain old reading are examples of possible sources of learning for the engineer. How does the course instructor keep current anyway? Do not tell me by consulting with people in industry - the same individuals the
instructor wants to keep current! (Professional Engineer in Hamilton, Ontario, Canada). (173).

**Summation.** In lifelong learning, the evaluation of students, teachers, courses, and programs is a complex problem, and there is no easy or generally accepted method of tackling it. Lifelong learning is evaluated according to the many different conditions or modes of learning it embraces. As has been shown, there are widely different philosophical perspectives which interact with various traditional and non-traditional procedures, thus creating a mixture that is hard to measure. Nevertheless, evaluation that is more or less satisfactory seems to emerge. However, the sought-after comprehensive, unified system of evaluation for lifelong learning does not yet appear on the horizon.

As matters presently stand, for lifelong learning episodes involving in-class participation, custodial methods of teaching and evaluating tend to prevail. Where the learner seeks a professional license, relicensure, or some other credential, he or she may have to face "serving time" or accumulating CEU's - no matter how the process may be scorned. There may be no alternate path.

The trend towards accepting experiential learning is consonant with the andragogic principle that learning experiences should result in demonstrable, enhanced competence. It is the evaluation of the competence that creates the dilemma. Obviously, the experiences cannot be revisited; therefore such credit as may be awarded for them
must be based substantially on documentary evidence and possibly personal interview. This could become the main evaluatory tool in determining the lifelong learner's education, training, and competence; call it a Learning Portfolio, Personal Inventory, Learning Passport, or what you will. Such a document would present an authentic, comprehensive compendium of an individual's course-work, class-work, experience, personal development and confirmed competencies. The standardizing of such a document and the procedure for compiling it should become the focus of an evaluation research initiative in lifelong learning.

As for the CEU or PDH as a unit of measurement for continuing education participation, while it has shortcomings, it has, for now, a supplemental role to play, at least until the birth of a patently superior system.

The literature shows that before substantive steps can, or should, be taken in the direction of developing a unified evaluation system for lifelong learning, including efforts to develop the "Learning Passport" or something of that ilk, the whole field of quality assessment and control requires rescrutinizing in terms of its relevance and validity.

III. What assurance has the lifelong learner of the quality and eventual recognition of his or her studies, and what is the role of accreditation in providing such assurance?

Given the hybrid mixture of traditional and non-traditional learning experiences that characterize lifelong learning, such assurance can be given only for those
experiences that are conducted, or supervised, under the aegis of accredited or otherwise recognized educational institutions or agencies. Accreditation or a similar "seal of approval" is given to educational institutions in the public and private sectors, which includes universities, colleges, proprietary distance teaching organizations, and vocational schools. The imprimatur each receives is related to the level and objectives of the learning each dispenses. Therefore it behooves the lifelong learner to determine whether or not the institution which he or she might wish to direct his or her studies is accredited, and also the status of the accrediting body. Thus the question "accredited by whom?" needs to be explored.

Educational institutions in the public sector, because of their dependence on the public purse, are required by statute to abide by educational standards that are variously monitored. Therefore it is reasonable to infer that such institutions will deliver services of quality and be generally recognized as so doing. In the private sector, this implicit assurance is not found. However, this should not lead an intending applicant to believe a priori that private institutions lack quality. On the contrary, as we shall see later, private institutions make up a substantial component (approximately half) of the degree-granting institutions in the United States.

Accreditation, or similar imprimatur, attesting to
quality of service, is obviously of importance to private sector education, but what accreditation means and involves needs to be clearly understood.

Accreditation "is a process in which institutions consent to periodic review by an external agency which determines whether the institution - or program - does or does not meet certain standards. Accreditation evolved in the United States because of the tradition of freedom given to the operation of private degree-granting institutions within the states" (Skolnik, 161:64).

The purpose of accreditation is to ensure the quality of the results of the educative activity, and thereby give meaning, value and legitimacy to the credentials awarded by the educational institution or by certain professional associations. Accreditation also involves the subsequent reporting, usually via a catalogue or similar publication, of approved institutions and/or programs that meet prescribed academic and performance standards. Neither the United States nor Canada has a centralized federal authority exercising single national control over educational institutions. In Canada it is the provinces, and in the U.S.A. the states, which assume various degrees of control over education. However, post-secondary institutions are permitted to operate with considerable independence and autonomy. As a consequence of this, there are significant variations in the character and quality of the programs offered at post-secondary level.
There are very few institutions of higher learning in the private sector in Canada. This is in contrast to the United States where, as already indicated, about 50% of the institutions of higher learning are private, proprietary, and non-profit universities and colleges. The issue of quality control through the accreditation process is therefore of particular concern from a "consumer protection" point of view, and also for securing the academic integrity of the educational system as a whole.

The concept of accreditation is uniquely American, and its history extends back to the late 18th century when some forms of monitoring educational institutions by the governing boards of colleges were introduced. It was the institutions themselves who provided the impetus for the development of accreditation criteria, standards, and procedures. From the outset, accreditation in the United States has been a voluntary, largely private, endeavour.

Canada has no accreditation system per se. However, membership of the Association of Universities and Colleges of Canada is regarded as standing in lieu of accreditation (Association of Universities and Colleges of Canada, 3). Application for membership is voluntary, and the criteria governing admission to membership are, in principle, identical to those of the regional accrediting associations in the United States. There are, however, procedural differences.

Accreditation is a process by which a basic level of
quality in education is assured, and it is based on the principle of peer evaluation. The six regional accrediting associations in the United States are federally recognized, non-profit associations of long standing and have a strong influence on the quality assurance process of American higher education.

There are two types of accreditation:

1. Specialized or programmatic.
2. Institutional or general.

Specialized accreditation usually applies to evaluation of programs, departments, or schools which form part of a post-secondary institution. Thus, that which is accredited may be a course curriculum or the school or college within a university. Some accrediting agencies provide both programmatic and institutional accreditation. Also, a number of specialized accrediting agencies accredit educational programs conducted in non-educational institutions such as hospitals, military establishments, and in business and industry.

Institutional accreditation applies to an entire institution, and indicates that all of its academic activities are contributive to the attainment of the institution's stated goals, although not necessarily all on the same level of quality.

According to Heusser, the most generally accepted functions of accreditation include, but are not necessarily
limited to:

1. Certifying that an institution has met established procedures.

2. Assisting prospective students in identifying acceptable institutions.

3. Assisting institutions in determining the acceptability of transfer credits.

4. Helping to identify institutions and programs for the investment of public and private funds.

5. Protecting an institution against harmful internal and external pressures.

6. Creating goals for self-improvement of weaker programs and stimulating a general raising of standards among educational institutions.

7. Involving the various segments of the constituency in institutional planning and evaluation.

8. Establishing criteria for professional certification, licensure, and for upgrading courses and programs offering such preparation (NAPNSC, 114:XV)

The actual process of accrediting involves a sequential five-part approach, namely

1. The accrediting agency, with the collaboration of educational institutions, establishes standards.

2. The institution seeking accreditation prepares a self-evaluation study that compares its performance with the standards established by the accrediting agency.

3. An experienced team from the accrediting agency visits the applicant institution to make a firsthand determination of the institution's compliance with the agency's established standards.

4. If the institution is accredited, the accrediting agency promulgates the institution's accredited status in the agency's official catalogue of accredited institutions.

5. The accrediting agency periodically re-evaluates the institution to ascertain that it is up-holding the established standards, is a progressive
institution, and that continuation of its accredited status is warranted (ibid.).

Proprietary home study institutions. Brosgall sees accreditation procedures to be essential for proprietary home study institutions because of the particular importance of the consumer protection function in this field of education (17:279-282). While Brosgall's paper addresses the accrediting procedures of the United Kingdom's Council for the Accreditation of Correspondence Colleges, what he describes substantially replicates those used in the U.S.A.

Brosgall acknowledges that courses provided by home study institutions vary widely in terms of content and rigor, and in order to give proper consideration to the institutions applying for accreditation, expert inspection is undertaken by a panel of assessor who visit the schools and then discuss their findings with the school's management. A documented report is then presented to the Council. The visiting panel is appointed from among educators, government officials in education, school representatives, and individuals with appropriate specialist expertise and professional standing.

A re-accreditation process after four or five years is undertaken to ensure the maintenance of standards. The use of annual returns reduces the need for frequent visitations. These returns keep the Council informed of the school's operations, including the notifying of significant changes under the headings of the original assessments, such as management, administration, course objectives, tuition fees,
and so on (ibid.).

In the U.S.A., the Distance Education Training Council (formerly the National Home Study Council) has an identical mandate and employs similar accreditation and post-accreditation criteria and procedures.

The non-campus, no-course, degree-granting institution: In and of itself acts as a quasi-accrediting agency. The institution does not accredit in terms of the procedures we have just described; rather it validates a student's degree scheme - a scheme that has been worked out between the student and the institution's counselors. Thus, validation amounts to a careful scrutinizing of the proposed learning activity to determine if it is of an appropriate standard for the award (usually a degree) to which it is intended to lead. The validation process bears some similarities to the learning contract, particularly in terms of its flexibility. It is this flexibility that points to the potential of this kind of institution to play a pivotal role in a lifelong learning system.

The pre-eminent example of a non-campus, no-course, degree-granting institution is the University of the State of New York's Regents College. Regents College is a constituent college of the University, and has no campus and offers no courses. The degrees awarded are accredited by the Middle States Association of Colleges and Schools.

It would be inaccurate to refer to enrollees in the
Regents College program as "students" per se, because they engage in a multiplicity of learning experiences conducted under the auspices of various educational institutions such as colleges, military training establishments, non-collegiate institutions, home study schools, and so on. However, all such institutions must have been previously evaluated by, or their academic integrity otherwise assured to the satisfaction of, Regents College as meeting the standards prescribed by the College for the award of college credit. The College accepts degree-level credit from any college or university that is accredited by one of the U.S. regional accrediting agencies. A cognate service offered by the College is the Credit Bank. This is an evaluation and transcript service for individuals interested in consolidating their academic records for employment or educational purposes. However, the credits listed are not evaluated against any set of degree requirements. The acceptance of credits by the "Bank" is based on the same academic criteria applied to the Regents College degrees. The Credit Bank concept is analogous to the "Learning Passport" idea to which we earlier referred.

In Canada there is no degree-granting institution in the public sector that employs the Regents College approach. The Regents College paradigm suggests, at least to a first approximation, a credible method of consolidating certain of the lifelong learner's learning experiences into one document that authoritatively attests to the completion of degree-
credit learning activity which, if the learner so desired, could be used as a "down payment" on an accredited degree. This, or some similar mechanism, is necessary in a viable lifelong learning system. The conventional procedure for legitimizing adults' learning episodes through accreditation, is insufficiently accommodating.

The accrediting of non-traditional education. Waniewicz has shown that would-be and actual lifelong learners have a significant level of interest in receiving official recognition of their learning endeavours (193:178). In many cases this means that they seek a degree; and yet there appears to be no concerted effort by education's Establishment to give particular attention to any accrediting or validating process for non-traditional learning experiences. Why this is so is not hard to understand, because traditional education is bound by substantial residency requirements, while non-traditional education is relatively unstructured and flexible. Traditional institutions and the accrediting agencies make these differences targets for their concerns with regard to the awarding of degrees.

The concept of the regional accrediting associations in the United States and the accrediting process associated with them are oriented toward the campus-based institutions. This is seen by Heusser as creating a bone of contention between campus-based institutions and those institutions that award degrees with little or no residency requirement. In defence
of the latter he points out that the prestigious University of London established the precedent, over a century ago, of awarding degrees throughout the Commonwealth purely by examination, requiring no residency at the University (NAPNSC, 114:XII).

However, there is a growing number of non-campus universities and colleges that serve a nationally, and sometimes internationally, dispersed student body. This situation injects the need for different evaluation criteria, because the relatively localized perspective of regional - even national - accreditation is too limited to serve such widespread learner constituencies.

As things presently stand, the recognition or acceptance of degrees or credentials earned non-traditionally is, as Heusser points out, the prerogative of the employer, or, if the learner wishes to transfer to another institution for further studies, it is the prerogative of the receiving institution (NAPNSC,113:21). Such recognition, when and where it is given, is increasingly being based on demonstrable learning outcomes resulting from the learner's study programs: where and how the studies were undertaken and conducted is becoming of diminishing concern.

Although this seems to suggest that the role of the accrediting agencies is perhaps becoming less significant (and this may be so), lack of accreditation poses certain problems for non-accredited institutions and the lifelong learner.
Eligibility for federal funding is predicated upon the institution's being accredited by a federally recognized accrediting agency. In Canada, this translates into obligatory membership of the Association of Universities and Colleges of Canada. However, mid-career adult students, for whom non-traditional programs have the most appeal, would, in any case, be ineligible for government-funded student financial assistance. Furthermore, the usual full-time studentship requirement for participation in government student aid programs precludes the part-time student from qualifying for such benefit. This condition has now been changed by some funding agencies.

Criticism of accreditation. The accrediting agencies, and the accrediting process itself, are not immune from strong criticism. Kalaf has observed that there is a persistence of a particular perception of accreditation among educators, including those in the accredited institutions, that the accrediting agency is a "club," dominated by an elite of traditionalists who stifle innovation with their rigid perspectives and policies, and make greater demands of newcomers than of their veteran members (Council for Adult and Experiential Learning, 42:6).

According to Kalaf, critics of accreditation focus on two issues: First, the low levels of competence displayed by college graduates today, and second, the languid and irresolute handling of off-campus and experiential learning,
resulting in "cheap degrees" and the cynicism of the students who seek them. Kalaf goes on to say that many bad programs are conducted by accredited institutions, and that there should be a shift in emphasis in the evaluation of an institution from the structure and "tools" an institution employs, to the effect it has on students; a concentration on performance and demonstrable competence rather than on process. While this point has generally been well taken by the regional accrediting associations in the U.S., there is no agreement among them concerning the relative weight of process and performance or how to measure the effects (ibid., p.7).

It is a reasonable assumption that when a long-established institution offers a new program, that program benefits from the reputation of the institution. Similarly, if inferior programs come to be associated with the institution, its academic standing will be undermined.

In the U.S., regional accreditation has traditionally been given to the institution as a whole; thus quality standards are intended to be met in all programs offered by that institution. Clearly, this does not mean that all programs are of equal quality. This situation has been accepted in the prestigious institutions, but there is now movement towards the certification of program quality. It is worthy of note that in Canada, universities are subject only to program evaluation.

With regard to the accrediting function of professional associations, they have been accused of
dogmatism, conservatism, insistence on unneeded procedures (adherence to unnecessary and time-wasting rigidities and procedures), mindless and continued enforcement of regulations that are intended to work one way but actually work in another; ignorance of new ideas and practices, and failure to develop adequate systems of monitoring quality (Houle, 86:271 and 291).

While this is certainly a vigorous criticism, it seems clear that any external evaluation agency or group needs to be concerned about its own credibility. The evaluators and their works should not merely be credible; they should be perceived to be so.

Free-standing secular private degree-granting institutions. These grant their own degrees and are self-financing; that is, they do not receive government grants for either operating or capital purposes. They include proprietary and not-for-profit institutions. In the United States there are many such institutions. Neither in the U.S. nor in Canada does the law require that a degree must be accredited. All degrees, accredited or non-accredited, are equal before the law and thus are legitimate as long as they are granted by institutions legally empowered to confer academic degrees. However, this does not imply equality of quality. The value of an accredited degree is rarely questioned; employers, as well as other academic institutions, will recognize it. Unaccredited institutions and unaccredited degrees do not enjoy such credence. There is an implication of inferiority in the non-accredited status. This is not necessarily so.
How does one respond to the anomalous situation that all degree-granting institutions were unaccredited when they started. Newly established colleges are systematically denied acknowledgement of their existence while they labour to win the implied esteem imputed to accreditation. This perverseness stands in the way of the setting up of new institutions committed to avant garde teaching and learning methods that address the current needs.

As long as a degree-granting institution is unaccredited, there will be those who consider it as not being "up to par." Accreditation is not ipso facto evidence of excellence any more than non-accreditation is of inferiority.

In Canada, particularly in the Province of Ontario, there are detailed statutory regulations associated with the granting of academic degrees. These regulations were not drawn up to facilitate the entry of new institutions into the existing dynastic structure. As Skolnik poignantly observes, "there is reasonably compelling support for the proposition that the dominant rationale in the regulation of degree granting in Ontario has been that of protecting a monopoly for the public university system .... this would seem to apply as well to the rest of the country" (161:80).

As the situation presently stands, the provinces exercise plenary authority in the matter of degree granting legislation. The Ontario Council on University Affairs has advised that whenever an application is made for the
establishment of a private degree-granting institution, an essential component in the assessment of the application should involve an "environmental scan" of the potential impact of the establishment of the new foundation on the existing universities and the publicly funded system of which they form part (Council of Ontario Universities, 43).

The tenor of this statement does not encourage the thought that private, free-standing, degree-granting institutions will be joining the educational system any time soon. The policy promulgated by Ontario's Robarts Government in the mid-60's still lingers. Under that policy, the Government stands generally opposed to the establishment of new free-standing universities.

The unfortunate consequence of this will be that Canada's lifelong learner constituency will tend to plan their learning programs in the context of the degree-level educational services now available to them from the U.S.A. and Europe via distance education, satellite, et al.

**Summation.** If an institution is accredited, there is reasonable assurance that studies completed under its guidance will translate into academic currency. However, its "exchange rate" largely depends upon subjective measures that are influenced by traditional practices and perceptions.

Since lifelong learning, by definition, comprises a combination of learning episodes undertaken by a mix of traditional and non-traditional methods, bringing it all
together as a legitimate educational alloy is a problem that has yet to be solved. But how much of a problem is it really? The learner is not without options, as we have seen in this section. If the learner's objective is to attain a specific credential or a professional license, accredited traditional institutions exist by and through which appropriate studies can be undertaken. Where the learning objectives are the enhancement of certain competencies, or are for personal development, accreditation is either of lesser or no concern.

What we really need to focus on is the low availability of innovative higher education services via degree-granting institutions that specifically target the lifelong learner. Such institutions as exist are non-traditional in their structure and methodology, and they therefore come into conflict with the entrenched view of society that only those institutions retaining the trappings of a traditional university education have legitimacy. Clearly, the accreditation process needs to be extended and developed to accommodate new entrant, degree-granting, innovative colleges, and thereby facilitate their growth.

While it is indisputable that the most profound form of accreditation is an institution's reputation for excellence, established through the demonstrated performance of its graduates, this is a long-term process. Lifelong learners, as all other learners, need accredited documents in our
credential-oriented society, if their learning has to do with maintaining professional competence or preparing for a career change.

The principle and process of accreditation are, with some variations, commonly adopted by most accrediting agencies. There are, however, political and partisan aspects to accreditation (predominantly the preservation of the status quo and controlling competition) that lead one to reflect on "Who will guard the guardians?"
This chapter has discussed different aspects of the legitimacy of lifelong learning. Broadly interpreted, a legitimate educational enterprise is one that is legally constituted, ethically conducted, and in which meaningful standards of academic quality are established and maintained. The responsibility for providing the public with this assurance rests with government and/or government-authorized accrediting agencies. Yet, we find that there is a distinct odour of protectionism and special interest influence permeating the conventional processes of legitimization of educational activity. Lifelong learning, because of its mosaic of learning methods, does not conveniently fit the conventional context. This raises the question: Should there be an entirely different frame of reference for lifelong learning? It might be desirable but it is not absolutely essential, for the simple reason that adequate principles and tools for ensuring the legitimacy of lifelong learning already exist, though not coherently organized. What is primarily required is wider acceptance of lifelong learning as a bona fide, non-competitive, complementary activity that does, in fact, represent the greater part of the learning continuum. In some quarters, there is an almost perverse notion that lifelong learning has more to do with avocational educational
pursuits, rather than vocational/professional. How else should we interpret the statement of a recent task force on lifelong learning that "lifelong learning is about acquiring a very broad range of knowledge and skills, only some of which may help directly in their work" (Ontario, 130:iv)?

As we have seen, lifelong learning is a flexible, individualistic endeavour, on occasion departing widely from traditional practice. In many of its forms, it represents the cutting edge of new educational technology, and should not therefore be subject to the heavy hand of conventional regulatory procedure that could stifle its development.

There needs to be determined effort by educators and accrediting bodies alike to cease drubbing each other over inconsequential issues which mostly amount to the protection of personal or professional turf. It should become generally accepted that educational activity leading to demonstrable competence in the purposed objective of that activity, be considered, ipso facto, legitimate learning. Business and industry focuses its interest on what employees can do with their knowledge; how productive they are. If a credential equates with this, then it is good currency. If not, then it has little value. The educational system, reflecting society in general, remains strongly influenced by the power of the credential. The credential does have its place; however, it must stand for something more than time-serving and the attainment of passable academic standards if it is to be a
fiducial document. A credential should attest to the graduate's ability to demonstrate competence. As things presently stand, non-traditional educational methods have to follow, to a reasonable and acceptable extent, most of the traditional forms of evaluation if the programs of study are to achieve "recognition." This obstructs development of more appropriate andragogic evaluation methods. These, combined with the traditional accrediting system, could better accommodate the needs of the lifelong learner. The present oligarchical form of the accrediting function has to change and become more reflective of the realities that the growth of lifelong learning is generating throughout the educational system. Cautious admission of non-traditional, free-standing, secular, degree-granting institutions into the educational system should be given serious consideration. Articulation agreements between colleges and universities, and corporate entities and universities, should be encouraged. Non-credit courses might be equated to certain credit courses or credit might be awarded on the basis of challenge examinations conducted by a university. Challenge examinations could be combined with an academic/experiential résumé in order to provide a comprehensive measure of a person's competencies.

Legitimizing lifelong learning is a field of debate and compromise. Even so, it should not become overly influenced by the engines of government or free enterprise. The lifelong learner - a responsible citizen - assisted by a counsellor
serving as an academic "travel agent," is not lacking the wherewithal to plan an individualized, wholly legitimate educational journey.

Education has ever been a political football. We need to be wary of the seductive notion that more administrative structures and/or special purpose agencies will make things more rational, more under control. This is quintessential collectivism. Functionally, existing facilities require only unity of purpose on the part of the operatives to marshal them in the service of the adult learner. The lifelong learner neither needs, nor should receive, spoon-feeding or being led by the hand. This is what andragogy tells us.
CHAPTER 5

Access and Delivery Systems

Sub-questions:

I. What access has the adult learner to continuing and higher education; what are some of the difficulties associated with obtaining such access?

II. Are there grounds for suggesting that distance education is as, or more, open, productive and learner-friendly compared with conventional education?

III. Are non-traditional methods of education, specifically distance education, cost-effective?

IV. What technologies are considered to be currently or potentially facilitative of lifelong learning?

V. What are the salient features of a systems approach to education and how is the approach complemented by computer-assisted delivery systems?

VI. What is the status of Problem-based learning (PBL) as a delivery method in a lifelong learning system?
1. What access has the adult learner to continuing and higher education; what are some of the difficulties associated with obtaining such access?

Access defined; some obstacles identified. Access to continuing, and higher education has been defined as the ability of learners to avail themselves of learning opportunities they need or want. Such opportunities are available to the adult learner via the non-traditional elements of the educational system comprising extension services, summer programs, weekend courses, and evening classes, as well as other learning methods such as home study/distance-taught programs, educational TV, and training in the work-place (Ontario Ministry of Education/Colleges & Universities, 127:62).

Some of the more obvious obstacles that stand in the way of would-be learners and the educational experiences they seek include family responsibilities, cost of the course(s), foregone earnings, distance, inconvenient timetabling, limited time to devote to study, non-availability of courses, curriculums' lack of relevance to the learner's specific needs. To a greater or lesser extent, these obstacles are encountered by virtually all part-time learners.

Access is considerably diminished where the educative experience sought by the learner is obtainable only on a full-time attendance basis. This condition effectively excludes part-time learners, the majority of whom are employed persons.

The costs of part-time studentship at a university or a
college can be a major inhibitor of further education, particularly for would-be learners on restricted budgets. The sparse availability of financial assistance to part-timers could possibly be due to the erroneous belief that working persons possess sufficient financial resources to support their college or university education.

Proximity is an important consideration for part- and full-time students seeking further education via traditional institutions. Many students are either unwilling or unable to travel long distances for their education. Transportation costs and time loss are significant considerations for many would-be part-time learners, particularly women with family responsibilities.

Clearly, if universality of access to continuing and higher learning opportunities is ever to be achieved, a highly diversified system, presenting learners with multiple options, has to evolve.

Access to universities. Accessibility is very much a university issue, not only in Canada but throughout the whole of the industrialized world. This is because of the value ascribed to a university education for economic and social reasons. These reasons impel would-be learners to seek what the university has to offer. The enrollment of part-time and mature students is rising. Lifelong learners represent a cohort impossible to delimit, and as they enter or re-enter the university system, the access problem devolves more to
accommodating them than it does to the 19-22 year-old group. Although the demand for specialized professional knowledge lessens as individuals get older, there are clear indications that the collective desire for cultural learning via university courses increases as the population ages. The telling issue has to do with the ability of universities to provide access to larger numbers of enrollees under present funding restraints.

To what extent should we expect the universities to change in order to accommodate students with increasingly heterogeneous backgrounds? Should we not be looking to the community colleges to perform a contributory role through, say, introducing transfer credit programs at first- and second-year level (Ontario Council on University Affairs, 120:28). Such an arrangement might, to an extent, allay the fears of some that the demand for degree status threatens the future viability of many community college programs.

As university participation rates grow, one naturally asks what proportion of the public can benefit? As previously indicated, we cannot say how many lifelong learners our institutions will be called upon to serve. If Canadians are as responsive as the promoters of lifelong learning would have them be, then a significant proportion of the population will be in a learning mode at any given point in time. How can this be in a society—a world—of limited, even diminishing, resources? It follows that if more people are to receive a
university education, they can be accommodated only if changes are brought about through institutional and organizational restructuring. In recent years, the government and universities have had to react in an ad hoc manner to accessibility pressures, with a consequent significant increase in university enrollment. A number of questions arise from this policy: Has the accommodation of the growth in enrollment been achieved through innovations in the delivery of instruction, increased class sizes, or what? Has the quality of instruction been affected? (ibid.) It is apparent that the demand for full- and part-time university education is imposing a strain on the institutional fabric that can only be relieved by structural adjustments (ibid.). However, such adjustments invariably involve trade-offs and compromises, both of which occasion concern about the effects on the quality of university education.

Access versus Quality. The Ontario Council on University Affairs report that, for the first time in many years, officials openly admit that obligations to meet accessibility demands have necessitated certain compromises in academic quality, yet these decrements have not been quantified in any precise manner. The underlying rationale seems to be that, because basic funding has not kept up with rising costs, universities' educational services cannot be proportionately increased to accommodate the needs of the larger numbers of individuals seeking university training. Ergo, decrements in
the quality of students' educational experience inevitably follow (120:16).

The Council of Ontario Universities has said that a policy concerning university accessibility should ensure a quality program for all students admitted, the implication being that there has to be a stable resource base which each institution can depend upon for the maintenance of quality academic programs, a condition that current fiscal restraint and budgeting surgery make impossible to achieve (ibid., p.20).

Countervailing activity is found in some imaginative changes in the teaching-learning process which have led to increased "system throughput" (to use industrial jargon), Personalized System of Instruction (PSI) being one example. But its effect on the quality of the learning has not yet been convincingly determined, one way or the other. Some changes (PSI included), however, are stridently criticized by segments of academe, viewed, as these changes are, as a patent dilution of the quality of the educational experience, a particular example being the adjusting of admission standards downward so as to enable more individuals to proceed to a degree. Increasing access to university by lowering academic admission standards endangers the quality of the degree granted by the institution.

A compounding factor is the incapacity of a fiscally constrained institution to accommodate the larger enrollments
without increasing class size, relying on part-time faculty, reducing the rigor of tests and essay work, and so on, all of which palpably undermine the education experience that one expects to receive at university.

Access versus quality is a conundrum having no easy solution since the universities are facing a "more means less" and "less means more" dilemma that only generosity of the public purse might resolve.

Open access. This is a concept that is gaining wider acceptance. The Open University in the United Kingdom was the precursor of enlarging access through "opening" the educational system. The degree of openness is determined by many factors; those commonly associated with the concept refer to the nature and restrictiveness of the rules and regulations governing registration of first-entrant students to a university or college. Luskin explains that such rules are usually expressed in terms of selection criteria, such as the qualifications required for right of entry, or right to compete for a restricted number of places available, or the right to take an entrance examination, or age limits, or location. He maintains that the fewer and less stringent the selection criteria, the more "open" is the entry (Neil,116:32).

Other factors include the degree to which it is practicable for the would-be student to avail himself/herself of the learning facilities provided by the institution, even though he or she is able to satisfy admission criteria.
Geographic constraints, physical handicaps, financial difficulties are some examples (ibid.).

Bercuson et al, while not disputing the principle of allowing open access as here described, believe the problem to be that few, once admitted, are allowed to fail (11: 64). Obtaining verification of this statement would not be easy. However, it is a caveat that instinct and experience tend to support.

The general concept of openness is furthered where institutions permit significant flexibility of the time allowed to students to commence and pace their studies, and let students drop out of, and re-enter, programs without penalty; essentially allowing them to "taste-test" the learning experience, if you will.

In the limit, open access means the removal of entrance qualifications, and the use of non-traditional organizational structures such as distance teaching, learning centres, and community resources, that effectively "take education to the people," all of which are the distinctive characteristics of UKOU - the open learning archetype.

**Access to private sector post-secondary education.** In Canada it is a matter of provincial policy not to permit fully private institutions with secular degree-granting powers. In Ontario, such has been the policy since 1963, when non-secular private colleges and universities were required to drop their religious affiliation to obtain full funding and thus, in
effect, become part of an informal system of public education (Ontario Council on University Affairs, 120:9). In funding, at least, university education became an exclusive public jurisdiction with a monopoly of degree-granting power. These rights were confirmed by law by the Ontario Degree Granting Act of 1983.

However, access to continuing education opportunities means more than access to university or college, or to any that may be established. It also involves provision for less-structured kinds of post-secondary education or for education carried on outside the regular system in alternative ways, such as those developed by most large corporations for the purpose of keeping their employees au fait with state-of-the-art theory and practice in a wide range of occupational disciplines. These in-house educational facilities not only concentrate the locus of learning in real-life dynamic situations, but are becoming a major contributive and complementary component in the continuing education of working people. It is a practical impossibility to accommodate all would-be learners within the traditional system; alternative forms have to be developed, both in the public and private sectors (Ontario Ministry of Education/Colleges & Universities, 127:65).

Private vocational schools play a significant part in preparing individuals for job entry and re-entry, and in upgrading the skills of employed people. The private
vocational school is, in most cases, oriented to a specific occupation or job family. Such schools are more properly to be regarded as training, rather than educational, institutions. Thus their clientele is mostly represented by artisans and those individuals occupying the lower echelons of the para-professions. Admission criteria are not stringent; a high school diploma may or may not be a prerequisite. For all intents and purposes, access is "open." Provincial governments impose certain statutory regulations on private vocational schools in order to ensure "consumer protection" and, to some extent, that the educational service is of an acceptable standard; but the regulatory process is very much "at arm's length." Courses conducted by these schools are of short duration, usually less than a year, and concentrate wholly on the skill subject. Proprietary correspondence institutions, such as International Correspondence Schools and the Granton Institute of Technology in Canada, are also categorized as private vocational schools. These offer a wide variety of vocational and avocational courses, all on an open access basis.

Access to the professions. Because of the requirements in some disciplines for fieldwork, laboratory work, or internship, access to professional training is restricted to those individuals able to undertake full-time studentship. The participation of part-time undergraduate students in most professional programs thus tends to be relatively small.
Access to the professions is controlled by specific admission criteria which the professional associations stipulate. There is a close link between formal education and admission to the professions. While education is increasing the number of qualified individuals seeking admission to professional careers, many professional associations have not enlarged their membership; in fact, they have stiffened the educational requirements needed for admission to professional practice. This results in high costs to aspirants to professional status; to the educational institutions; and to the public which finds the charges for professional services bid higher through the artificially created shortage of practitioners.

There is need for universities and colleges to free themselves from the restrictions imposed upon them by the professional associations (Ontario. Ministry of Colleges and Universities, 123:67).

**Summation.** Access to continuing education opportunities by part-time learners is an area of concern, both to learners and the educational system. Universities and colleges cannot be expected to service the numbers or cope with the heterogeneity of the students that the continuing education/lifelong learning movement is generating, unless structural and philosophical change takes place in the traditional educational institutions.

The principles upon which adult education is based
support open access, and they do so in the context of andragogic philosophy. In the traditional educational domain, access, in andragogic terms, is impeded by such things as a limited range of programs; a possible lesser calibre of instruction; limited funding assistance to part-time students; insufficient counseling or child-care services, and so on. Such deficiencies cannot be dealt with unless changes in the structure and funding of universities and colleges are made — unlikely events in the present climate of fiscal constraint. Fiscal considerations lead to the Quantity versus Quality issue; that is: Increased service without increased funding, allegedly equates with lower quality of service. This is an intuitive conclusion that ought to take into account the increase in efficiency that technology and new methods might introduce. We need to be wary of any compromise in the quality of education in view of the high competencies that a competitive world economy imposes upon the citizenry.

Alternative methods of providing access are being developed by the private sector via highly sophisticated in-house training activity and by increasing the numbers of vocational schools. Professional associations conduct updating sessions via their regular meetings, but are regrettably restrictive in their admission policies governing access to the professions themselves.

Access to learning opportunities for part-time students obviously means more than access to existing academic
institutions. While access to these institutions is improving through a significant shift towards different systems or methods of study, the most contributive system is that of distance learning. Distance learning has developed a unique identity, giving evidence of being able to provide open access in every sense of that term to a very large population of part-time learners, and is the closest we can come at present to universality of access.

II. Are there grounds for suggesting that distance education is as, or more, open, productive and learner-friendly compared with conventional education?

Distance Education defined. Distance learning is a systems approach to education. This implies the existence of a feedback loop that enables the educational process and the results thereof to be compared with educational objectives in a timely manner. Distance education is, therefore, a closely controlled, integrated system that, it is claimed, is both productive and individualized. The systems approach applied to education will be treated in more detail later in this investigation.

The main elements in distance education, according to Keegan, and which collectively define it are as follows:

* The separation of teacher and learner which distinguishes it from face-to-face lecturing.

* The influence of an educational organization which distinguishes it from private study.

* The use of technical media, usually print, to unite teacher and learner and carry the educational content of the course.
* The provision of two-way communication so that the student may benefit from or even initiate dialogue, which distinguishes it from other uses of educational technology.

* Teaching of students as individuals, and rarely in groups, with the possibility of occasional meetings for both didactic and socialization purposes.

* The participation in a more industrialized form of education (based on the view that distance teaching is characterized by division of labour; mechanization, automation; application of organizational principles; scientific control; objectivity of teaching behaviour; mass production; concentration and centralization) (92:19-45).

These elements are more or less embodied in the several different types of distance learning system that have evolved over the brief history of distance education. In the course of this investigation, the following three types have been examined:

**The Organizational Model**, which has co-ordinating, counseling, initiating and validating roles in the development of distance education programs but does not itself give teaching services. Approximate examples of this model are Northland Open University in Canada, and in the United States, Regents College External Degree program.

**The Dispersed Centre Model**, in which the institution is melded with the community, as is Coastline Community College in California.

**The Centre-periphery Model**. This is typified by Athabasca University in Canada and the Open University in the United Kingdom, as well as the distance teaching arms of
traditional universities and colleges. The model is characterized by a central administration which exercises complete control over all operations, including any local centres.

The background of Distance Education. Distance learning had its origins in correspondence education. Today, correspondence is not the only form of communication between the educational institution and the learner. Communications technology and the computer have entered the field and are playing an increasingly greater role. Thus Distance Education is a more appropriate and inclusive term. Yet "correspondence" per se continues to be, for a large number of students, a significant component in learning at a distance, and this diminishes the erroneous perception that learning by correspondence is outmoded.

Distance learning in its purely correspondence form had its inception in Germany in 1856. The University of London in allowing, in 1858, anyone to be admitted for degree studies provided they had passed the matriculation examination, paved the way for the growth of private correspondence colleges which prepared students for the University's examinations. This enabled students to study independently for the degree without any formal on-campus tuition. In Canada, distance education at university level was initiated at Queen's University in Kingston, Ontario, in 1889. Today, about twenty
Canadian Universities have distance education departments.

The first correspondence program in the United States is thought to have been introduced by William Rainey Harper in 1884 as part of the Chautauqua movement in New York State (Lyons, 102:3). In Europe and North America there are many correspondence schools of long standing. In Britain, Wolsey Hall, Oxford, gained, over the years, a high reputation for preparing students throughout the commonwealth for University of London examinations. In the U.S.A., International Correspondence Schools, founded by T. S. Foster in 1890, continues to this day to be a leading proprietary institution in the provision of distance learning services, using high sophistication in the field of educational technology.

The Distance Education Training Council (formerly the National Home Study Council), located in Washington, D.C., is an accrediting agency that has done much to legitimize distance learning through setting performance standards and maintaining surveillance of its member schools.

The Open University in the United Kingdom has given a certain cachet to correspondence/distance education programs that originate from recognized universities.

It is of interest to note that in 1966 a study was conducted to determine the feasibility of setting up a state-wide system of correspondence study in New York State (Lyons, 102:3). This coincided with the British Government's commitment to the Open University. These almost simultaneous
initiatives, on both sides of the Atlantic, might be viewed as a challenge to the entrenched belief that education—particularly higher education—is critically dependent on face-to-face tuition. Lyons, who authored the feasibility study, saw the College Proficiency Examination Program as providing for the validation of, and permitting the granting of credit for, an individual's subject matter competencies, regardless of how they were gained (ibid., p.3).

Lyons' perception, in 1966, of correspondence education as a developing learning mode has been confirmed by the changes in the thinking of educators over the last thirty years. He also emphasized that, in any proposal for a statewide system of correspondence study, special attention should be given to serving the needs of the mature learner. He believed that correspondence education could serve learners at age levels from junior high school age to senior citizens (ibid., p.5).

The role of Distance Education in lifelong learning. Neil and others maintain that openness of access to educational opportunities for lifelong learners is positively and highly correlated with the extent to which an institution is dedicated to distance learning (116:37), (Rumble, 150:12). As we have previously observed, openness means more than the extent to which the admission criteria governing entry to an educational institution might be considered as restrictive. Open access has to do with the practicability of the would-be
learner's being able to make contact with the available learning facilities. Physical separation and other constraints are significant impediments that distance teaching is able to either minimize or eliminate, mainly by using educational technology. Distance and time constraints are significantly reducible now through the use of computer networks, and the advance of information and telecommunications techniques. These are combining to form an infrastructure which can support much sophistication in distance learning systems at incremental costs (Commision of the European Communities, 39:8).

The real and predicted growth in lifelong learning is such that the conventional educational system will overload. Neil says there are indications that distance education may provide a solution to the problem (116:42). He identifies three aspects of the problem that, in his view, distance education can address:

1. Where educational or training services need to be made available to:

   (a) massive and ever-increasing numbers of people (e.g. in S.E.Asia).

   (b) a population that is widely dispersed and of low density, worsened by unfavourable geographical features.

   (c) significant numbers of people who cannot avail themselves of facilities provided by conventional systems.

2. Where a marked increase in cost-effectiveness, particularly in capital expenditure, of an expanding educational system is a vital concern. Distance education is potentially considerably more cost effective than a conventional system covering
similar subject matters.

3. Where the inertia and resistance to change of a conventional system is causing stagnation in education and training and/or persistent production of irrelevantly qualified people (ibid.)

From the perspective of the lifelong learner, those best served by distance education may be generally grouped as follows:

* Those unable to cope with the rigidity of the conventional system or who strongly prefer distance learning in their own time and at their own pace.
* Those who associate the conventional system with "failing" and prefer the security, even anonymity, provided by distance learning.
* Older adults who wish to "keep up" with the younger generation.
* Professional people wishing to maintain state-of-the-art theory and practice.
* Retrainees requiring new skills and knowledge to cope with the technological advances (or redundancy) of their trade.
* Those who wish/need to remain in productive employment whilst involved in a learning program.
* Those seeking education for personal development (ibid., p.64).

Still further groupings could be made to cover the educational needs of adults in less developed countries.

Distance education studentship. The characteristics and dynamics of studying at a distance need to be explored before any comparison between distance and conventional education could be attempted.

In the early years of distance education, when the mode was purely by correspondence, research studies showed that the
correspondence student fared well when compared to his or her classroom counterpart, and attained above average grades. The research also showed that correspondence students rated above average intelligence (Lyons, 102:5), a factor that subtracts from the validity of the comparison. High drop-out rates also characterized correspondence learning, which Lyons believes are due to the impersonal nature of the system (ibid.).

Distance education in the 1990's recognizes the drop-out problem as being essentially one of maintaining student motivation. Through new technology and innovative methods, attempts are made to reduce the distance student's feeling of isolation. This is a multi-faceted problem, and recent research indicates that isolation is only one of several difficulties that the distance student has to cope with. Heinze, reporting on a research project conducted under the auspices of the Fernuniversitat in Hagen, stated that the project investigated the environment of distance students by means of extended interviews which were later analyzed in order to build a picture of the social and psychological milieu of distance students. The thesis of the research was that the personal situation of distance students, and especially their social contacts, has a significant impact on students' study situation, particularly with regard to motivation and success in study. The researchers considered that specific study patterns are caused by students' different life situations or different study environments (75:53).
The environmental factors were considered to be:

* Employment situations
* Social contacts in occupations
* Assessment of one's suitability for one's occupation
* Satisfaction with employment situation
* Education and professional training
* Educational goals
* Career goals
* Family situation
* Financial situation
* Leisure time activities and social contacts
* Study habits and study situations
* Psycho-social factors in the study situation
* Distance education problems: motivation to study at a distance; strangeness of studying at a distance; expectations and experiences with the distance teaching institution
* The administrative system of the distance teaching institution
* Learning materials and study centres.

The expectation of the majority of students interviewed was to complete their program and obtain an academic degree. Two factors frequently cited by students as motivating forces were:

1. Promotion, either from a merely financial perspective or career advancement in general.

2. The ability to survive against academically qualified competitors, meaning improvement and protection of their present position.
The reasons given for studying at a distance nearly always included organizational considerations, such as study at home, and independence of place of study.

The respondents indicated that distance learning had the following disadvantages:

* Restricted leisure time activities.
* Strains on family life.
* Strains on professional employment situation.

Heinze concluded that distance study appears to impair communication among family members, this being a particular problem in the case of students who are working and have families. The majority of distance students are married and have one or more children. The age range of students and their spouses falls within the 25 to 38 group.

With regard to the work load of a typical distance student, this is more often a psychological, rather than physical, strain. Many students are professional people and are employed as engineers, accountants, or hold senior positions in the public service. The weekly average number of hours in employment in the Fernuniversitat study was generally more than 40.

Nearly all students work on their study materials at home, and most have their own "study" to work in. Study takes place normally at night or at the weekend. Very few students have a fixed timetable.

Heinze observed that nearly all the students interviewed
during the study recognized a difference in their study attitudes now when compared with earlier habits in their childhood or youth. More than half of those interviewed said that learning was easier earlier in life. Adult learning approaches, as compared with those of the school years, were seen as being, in order of importance, more purposeful, more interesting, more independent, more intensive, and more continuous. Almost all respondents held the view that the essential difference between the traditional in-school learning of their earlier years and now is that they now study voluntarily and have clearly defined purpose for study (75:57).

Murdoch University in Western Australia provides an interesting example of a combined internal (i.e. in-residence) and external (via correspondence) system of higher learning. Potter reports that of the University's 2500 students, 900 are studying externally. In describing the system, he says

A student taking a degree from any one of the schools of Education, Social Enquiry, Mathematical and Physical Sciences or Human Communications begins his studies with a series of Trunk Courses and then concentrates on a program designed from available courses in the school of his choice. Whether the student lives in the metropolitan area of Perth, or in the remote northern [areas], may well make very little difference to the degree he eventually obtains since he will be receiving via correspondence and in some cases audio tapes, exactly the same course as that which his internal counterpart receives on-campus (141:95).

This categorically acknowledges the parity that Murdoch University assigns to on-campus and correspondence modes. Potter goes on to describe the correspondence mode, showing it
to replicate in its content and administration that which educators associate with the traditional "learning through the mail" process. The student works through required texts, study guides, and supplementary papers, and responds by writing essays which are mailed to the University and graded by a tutor. Potter explains that interaction between student and tutor depends solely on need and inclination. This has been the procedure that has served the University well for several years. It has been print-based and an archetypical correspondence system. Potter regards the system, now supplemented by audio tapes, as most effective, since it avoids the inflexibility that radio, teleconferencing, television, and satellite introduce. He says "The only other existing communications system that it was felt might be of use, particularly in facilitating student-tutor interaction, was the telephone."

However, he recognizes that in Australia, where many students live in remote areas and do not possess telephones, the educational planners have no alternative but to limit most of student-tutor interaction to the mail system (141:96). Nevertheless, Murdoch University has systematically incorporated telephone-based tuition into its dual-mode program.

In practical terms this amounts to:

* telephone discussion between student and tutor after the student has received his graded assignment.
* tutor-initiated telephone contact with student within the first week of the course.
* an 18-hr/day answering service for students

* teleconferencing in some courses

* a dial-access system for students. This comprises course summaries, explanations of specific "problem" areas, administrative information, and so on.

The University canvassed opinions from over 300 external students in order to ascertain the usefulness of an interactive form of study and also the type of telephone-based facilities found most useful. The results of the survey provided an interesting distinction between "home-study" and "distance teaching." The impression given by 84% of the respondents was that the external studies process at Murdoch University was most adequately described as "home study" (i.e. the course writer's responsibility being perceived to be the production of a comprehensive package; the tutor's responsibility that of marking assignments; the student's responsibility to work through the course alone, interaction between the student and the tutor being minimal. The other 16% of respondents indicated their external studies experience as being more accurately described as "distance teaching" (i.e. the student being guided through the course by the tutor who supplements the course materials with face-to-face and/or telephone-based interaction). The above parenthetical definitions were proposed in the questionnaire, and respondents chose the definition which best fitted their perception of their experience with the external program.

Potter points out that 71% of the respondents indicated
that they would prefer the distance teaching mode of external studies, while 21% indicated a preference for the home study mode (141:101).

The study also revealed that the University's tutors had an overall preference for teaching rather than tutoring home study, which amounts, for the most part, to marking papers.

Distance education studentship is essentially an individual, rather than a collective, experience, and Baath sees it as an appropriate and helping component in many kinds of learning projects within the framework of lifelong learning. Baath quotes Glatter and Wedell's pre-enrollment questionnaire which revealed the most common reason for enrolling in distance study given by respondents was that distance study would make it easier to plan the work than if studies were undertaken completely unaided (5:7-8).

The helping relationship. It is axiomatic that most people benefit from some sort of external help in learning. How much and what kinds of help they need in acquiring cognitive learning matter, depends, according to Gagné, upon:

* the learner's store of previously acquired verbal information available as a meaningful context when learning new information

* what previously acquired intellectual skills are available as a basis for building new skills

* how developed are the learner's cognitive strategies (Baath, 5:8).

Delling considers that distance teaching institutions ought to work more conscientiously as "helping organizations"
Baath concurs with this in his comment that, irrespective of conceptions of learning and models of teaching, most distance students need help of the same kind as do other adult students, and he cites the following:

* Help with defining learning goals.

* Help in selecting learning materials; materials not only related to the students' learning goals and their previous knowledge, study experiences, etc., but also reasonably complete and correct as far as content is concerned, formally well organized and linguistically easy to understand.

* Help when problems and difficulties arise during the learning process.

* Help to evaluate the students' learning progress (ibid., p.22).

The first two items refer to pre-enrollment counseling, with the second item emphasizing the design of course materials for distance study. The third and fourth items show the need for two-way communication between the student and the tutor either by mail, telephone, or face-to-face.

Baath contends that, due to their study situation, distance learners need special help with the start of their studies, since there is much evidence that this is the most critical phase of a distance study course - the first, or first few study units (ibid.). The proportion of non-starters is often great, and the majority of the remaining non-completers drop out during the first part of the course (James and Wedemeyer, 1959; Harter, 1969; Pfeiffer and Sabers, 1970; Rekkedal, 1972; Baath, 1980) (Baath, 5:22). It appears highly desirable that, as soon as possible after the student has
enrolled, the tutor should contact him/her. This integrates the student into the social system of the distance learning institution.

Baath identifies a further and important aspect: distance learners need the sort of help that will promote their motivation to study. The task of promoting students' motivation is difficult to accomplish solely by means of the instructional materials themselves, no matter how well designed and presented they may be. Thus it becomes the tutor's most important function to stimulate, support and strengthen the student's motivation (ibid., p.24).

Gibbs and Durbridge say that some empirical evidence can be found that tutor qualities such as "warmth," enthusiasm, and empathy can further the motivation of distance-taught students (ibid.).

Brady reports a clear correlation between "learning trauma" (tending to lead to drop-out from studies) and unfavourable interactions with the tutor. He also found that correspondence tutors who regard and treat their students as individuals contribute to diminishing the risk of learning trauma (ibid.).

Baath considers that the importance of the tutor's role in distance education is often not fully realized, and he calls for a more conscious and systematic training and utilization of tutors in distance education activities (5:25).

The opposing view. Going back to its early origins,
distance education in its correspondence form was not always regarded approvingly by educators in the traditional system. According to Lyons, this attitude stemmed, in part, from the fact that not every correspondence course, nor every correspondence school, was born of high purpose or reflected high quality (102:5). Today, there are still disapproving voices to be heard. According to Neil, the opposition to the development and expansion of distance learning systems is noted particularly among academic staff, administrators and planners in conventional educational institutions and organizations. The grounds most often quoted for such opposition are:

1. The achievements of distance learning systems could only be inferior and second best to those of conventional systems.

2. Distance learning inevitably leads to a reduction in academic standards in the subjects dealt with and in the quality of the teaching.

3. Certain subjects and disciplines cannot be learned satisfactorily through distance learning (e.g. medicine, science, technology, and engineering).

4. In higher education, open access distance learning systems would lead to over-production of people with degrees.

5. Distance learning systems are possibly cost-ineffective largely owing to massive drop-out of students (116:40).

Neil also asserts that the general public in many countries had, and presumably many still have, a prejudice against distance learning largely on the grounds of a general mistrust of innovative, non-conventional modes of learning,
and a kind of cultural reverence and a high regard for the traditional teacher who is seen and known in person. Luskin, commenting on the reaction to the innovative approach of Coastline Community College, points to another core of opposition when he says "People in the campus-based or traditional institution are stricken with fear that this new form will replace them..." (Neil, 116:21).

Neil makes the further point that employers who rely on formal educational qualifications in their recruitment of personnel are less than happy with the idea of being confronted with an unknown quantity - the applicant who has qualified through distance learning (116:40). This perception is heightened if the "distance learning" in fact took the form of correspondence tuition. The pejorative connotation associated with correspondence tuition relegates this particular mode to a second class status that is unwarranted.

Neil maintains that the countering of such attitudes and prejudices is not simply a matter of using rational argument, providing sound information, and the challenging of unfounded assumptions. It is necessary to demonstrate the validity, reliability, and credibility of the education through the quality and qualifications of the tutorial staff involved, and the integrity of the guidelines influencing the distance learning process. He suggests five practical guidelines, attention to which will go a long way toward silencing the opposition that asserts that distance learning is inferior to
learning in a conventional, traditional, system. They are:

1. The creation and production of learning materials of exceptional quality.

2. The use of well-conceived teaching styles, teaching methods and student support services clearly designed to promote effective independent learning.

3. The design of curricula manifestly relevant to specified and real needs for education.

4. The avoidance of excessive unorthodoxy or adventurousness, while maintaining a prudently innovative approach to curriculum design.

5. The careful evaluation of student performance and the consistent analysis and use of feedback information to improve the system (ibid., p.41).

It is debatable, however, as to whether there are any subjects or disciplines incapable of being mastered by distance learning, as some opponents allege. Community and other resources can be integrated into the learning experience.

The attitudes, apprehensions and prejudices which have been mentioned here were, as Neil states, encountered by the founders of Britain's Open University (116:40). He reiterates that the key to dealing with this kind of situation is to establish institutional reliability, validity and credibility. These, in turn, depend upon the quality of the personnel involved. The experience of UKOU as an innovative, initially very controversial, enterprise shows that a distance learning system is more likely to be relatively well received, at least by the general public, if it is legitimized by government.
Summation. Distance education is but an evolutionary development of a traditional form. It complements and extends the conventional system; it does not replace it. Having said that, it needs to be recognized that conventional methods are inherently limited in their capacity to satisfy present and future demands for educational services. An inevitable and logical transition is occurring, one that will lead to a synthesis in which the favourable features of both systems will effectively combine, ultimately claiming one unique identity.

Theoretically, distance education can reduce the load on the present educational system insofar as classroom facilities and other social provisions are concerned, but the administration, tutoring, interacting, and the keeping account of a dispersed student body are intensive new activities, and it is perhaps a moot point as to whether or not the released pressure on the conventional system might find itself transferred to distance education.

With regard to improved access to further learning opportunities, the investigation convincingly illustrates the ability of distance education to provide this to a degree far beyond the intrinsic limitations of the conventional system. Distance teaching in some of its modalities provides educational services without rigid scheduling; virtually "on tap" as it were. The system is shown to provide the learner with flexibility in his or her choice of learning forms and
styles.

With regard to productivity, this is a term that can be variously interpreted, and in education it does not convey the same meaning as when employed in the context of a smokestack industry. The idea of productivity includes quality as well as quantity. Sometimes quantity is emphasized in order to make a process or organization look favourable.

In distance education, as has been shown in this section, many may enter and proportionately few may emerge (as graduates). Are the non-emergents to be categorized as "failures of the system"? Open learning means virtually unconditional right of entry. Therefore, numbers of entrants may wish to "taste-test" the learning experience before re-entering later on a committed basis. On the other hand, open access encourages many to enroll who do not possess the qualities to complete a particular program. However, this is not to say they have not profited, or have been dissatisfied with that skill level they were able to attain. The differential self-pacing characteristics of some distance learning modes defeats attempts to put together meaningful statistical data.

What has been shown in many studies is that systematized learning - and distance education is such - can result in learning objectives being attained in significantly less time than by conventional methods, presumably due to the tight, mechanized organization of a distance teaching system,
particularly if the Centre-periphery model is considered.

There are some important caveats that I think should be noted. Firstly, the Counseling/Helping Relationship aspect of distance education: this needs to be conducted with restraint because some tutor/counselors, in spite of their good intentions, can so overwhelm students with care that they are reduced to dependency and low levels of productivity. Students can become content rather than challenged and fulfilled. Too much security leads to too little initiative and growth.

Secondly, there is the autonomy which we have previously discussed, and it is considered a desirable concomitant of distance learning. Many educators speak of student autonomy as an ideal (were it really attainable), but one must not ignore the law of diminishing returns. Effectiveness declines when additional increments of autonomy are added, because an excess of autonomy prevents co-ordinated progress towards central goals; integration of activities suffers and labour is therefore wasted. On the other hand, diminishing autonomy fails to develop and use the talents of the students themselves.

One concludes that distance education requires an organizational centre of influence to make it viable. There is clearly a "balancing function" in which participants at the "sending" and "receiving" ends have to engage.
There is a predilection for students to favour tutor intervention and either telephone or face-to-face interaction. To shift in the direction of independent learning and obtain the systemic advantages claimed for so doing, distance education has to have, and is developing, a sophisticated technological infrastructure that either replicates, or provides substitutes for, the congregated and personal environment of the traditional educational institution.

This section has shown that distance education systems intrinsically provide more openness of access than conventional systems of education. As to productivity, this is as debatable as it is difficult to quantify. The aficionados of educational technology are persuaded that their machines and systems can enhance productivity - at least in the cognitive domain. And there are confirmatory data.

III. Are non-traditional methods of education, specifically distance education, cost-effective?

These are times of concern about providing cost-effective educational programs. In the context of the lifelong learning movement, this is an issue that has several dimensions because lifelong learning can be undertaken in various ways, some of which are cost-effective, and some not so. Neil and others maintain that distance education is a dominant component of lifelong learning (116:77 and 46); consequently it should be the mode most subject to scrutiny with regard to its
cost-effectiveness. In doing so, the focus has to be on the specific mode of distance education, its administration, and the media used to deliver instruction; all in terms of what represents the least cost, is least complicated, and is most accessible. This is no easy task since there are several kinds of distance education, and even seemingly congruent systems include different components and different media, each possessing a unique cost structure and yielding unique benefits to the learner constituency served.

While distance education is now widely considered as an effective system for meeting the needs of lifelong learners in the developed countries, in its unsophisticated, low-cost forms it is also a viable system in less-developed countries where few or no educational services existed previously (ibid., p.78).

While the literature emphasizes the methodological considerations and the advantages that pertain thereto in non-traditional education, the fiscal issues are not as clearly portrayed. Various studies point to quite significant costs associated with non-traditional methods and the many variables introduced by environmental factors. Thus it is not possible to claim, categorically, that non-traditional methods are less costly than traditional ones; it depends largely on circumstances. However, Britain's Open University is an example of how economies of scale can be realized through distance education. It also portrays a viable scenario for
the development of a lifelong learning continuum.

Walter Perry, the first Vice-Chancellor of Britain's Open University, recognizing that the investment in initial education in all countries of the world is very high, maintains that, particularly in underdeveloped and developing nations, adequate continuing education cannot be added to initial education unless a cheap way of doing so can be found. Perry says that almost the only way of doing this is by distance education. He goes on to cite some reasons for this: People do not have to leave their employment and therefore reduce the GNP; very little capital expenditure is required for buildings; only a relatively small number of teachers is needed. Furthermore, distance education tackles the problem of continuing education, which is the predominant problem that all traditional educational institutions are having to face as lifelong learning becomes an ever larger component of the education continuum (Neil, 1966:6).

We might be led to conclude from this that if conventional institutions were to wholeheartedly embrace distance teaching methods, then their fiscal problems could be substantially reduced. But, as the literature shows, a workable fusion of traditional and non-traditional methods of educating people under the aegis of a single institution is not as straightforward as it may at first appear.

The requirements for the management of distance learning are different from those of conventional institutions. Much
of the teaching in conventional institutions is not managed at all because each member of the faculty has almost complete autonomy regarding what he or she does in the classroom.

Feasley explains that, in a distance teaching institution, course design, production, distribution, and delivery necessitate the integration of many academic and non-academic specialists. He observes that a distance teaching university (DTU) requires an integrated and centralized structure of governance in and by which senior administrative officers are given considerable explicit powers (59:44 et seq). These comments suggest that distance teaching institutions, such as a DTU or the distance teaching arm of a traditional university, are virtually systematized production units for learning materials. It might be concluded that, in order to impose control on production costs, which can be high, collaborative arrangements with sister institutions would be helpful. However, these are not easily set up unless an assortment of individual interests can be accommodated.

Because distance education systems are found in various forms, comparing their costs and benefits is difficult. Lefranc contends that economic effectiveness should not necessarily be the determining measure of distance teaching systems (Feasley, 59:47). However, Britain's Open University has gained for itself a worldwide reputation as having achieved academic standards at the undergraduate level that have parity with traditional institutions, and has done
so with significant economic effectiveness. Feasley reports that the University has achieved a recurrent cost per equivalent undergraduate that is about one quarter of that at conventional universities (ibid., p.46). This has come about as a result of a very large enrollment.

Large enrollment is the key to the economic viability of a distance-taught program. This is verified by the performance of large proprietary correspondence schools that serve thousands of students. Pure correspondence study that relies exclusively on printed material can translate into low cost per student and turn a profit. More sophisticated systems translate into higher cost per student even if larger numbers of students are served (Holmberg, 81:191).

McIntyre and Vales report that in comparing the cost-effectiveness of non-traditional Whatcom Community College in Washington with three campus-based colleges of similar size, Whatcom seemed to perform as effectively in most operational areas and spent 10% less per student and 6% less per course than the campus-based conventional institutions. However, it has to be borne in mind that many published cost comparisons are based on estimated costs, and therefore the results of such analysis are suspect (Feasley, 59:47 and 49).

In 1975, Klees observed that the cost-effectiveness of many multi-media distance learning programs was being compromised by the high concentration on video technology to the exclusion of lower cost print and audio media. He claimed
that simpler video productions - video-cassettes - could be produced for about a twentieth of the cost of high quality video. The simpler, cheaper approach results in the instructional material being easier to revise and update. Furthermore, high production costs can equate with a lower inventory of courses (Feasley, 59:47). Britain's Open University has recognized the truth of this and no longer concentrates on TV broadcasting to the extent it did in the University's early years, when the TV lectures also performed a significant advertising function.

The economic factor associated with the time it takes to produce a graduate via distance education should not be overlooked. Generally, the duration of an unpaced non-traditional undergraduate program exceeds that of a conventional institution. Furthermore, the statistical evidence of numbers of students graduated versus numbers of students enrolled points to a significant non-completion rate, the reasons for which were touched upon previously in this chapter. However, Britain's Open University is probably an exception, since completion rates are consistently high.

Feasley and others concur that it is only when enrollment is high that the use of technology in distance-taught courses - particularly broadcast media - becomes cost-effective by comparison with classroom-based systems. Feasley believes that distance education will become more prevalent as higher value is given to reducing students' time away from their
employment (55:53).

Conventional teaching systems, in general, are cheaper for low numbers of students, and the point at which distance teaching institutions become economically more efficient (as measured by average student cost) than conventional systems depends both on the extent to which the institution's fixed costs are higher than those of conventional institutions, and the variable costs per student are lower than those of conventional institutions using face-to-face teaching.

Rumble and Harry say that studies indicate that distance teaching universities can be cost-effective by comparison with conventional institutions but their cost advantage is lessened if the investment in media and materials is large relative to the number of enrollees; the direct student cost is higher than, or at par with, those at conventional institutions, (the distance teaching university cannot then achieve economies of scale relative to the conventional institution); the distance teaching university does not attract a large enough number of enrollees to warrant investment in the development of its materials and systems (150:220 and 221).

The singular success enjoyed by Britain's Open University has come about because it has been able to produce graduates at an average unit cost significantly below that of conventional universities in the United Kingdom. Distance teaching universities in other countries have not yet been able to match this performance.
Borge Holmberg reiterates the point that any reference to the costs of distance education must be qualified by a description of what kind of distance education is meant (81:196). For example, Britain's Open University uses TV and radio; however, Fernuniversität in Hagen does not. Some distance teaching universities have in-residence sessions – others do not. The economic issues are thus quite complex, and the literature indicates much discussion on this issue. Holmberg's view is that the cost benefit relationship between non-traditional and traditional methods is best investigated by comparing the costs of reaching a particular educational goal, such as a degree. UKOU has done this, and has arrived at the apparently favourable data referred to earlier.

Mace argues that there is a further economic factor that should be taken into consideration in the evaluation of UKOU, namely that UKOU's students' average age on graduation is significantly higher than that of graduates of conventional universities. He maintains that the consequence of this is that UKOU graduates have a shorter earning "life" and are also limited in terms of their ability to move into higher salary brackets (Holmberg, 81:193). These points notwithstanding, non-traditional educational methods avoid students' having to forego their employment earnings during the period of their studentship. Furthermore, and as Perry confirms, most of the teaching in a distance teaching institution is done by part-time adjunct staff who are usually employed full-time at other
educational institutions. This eliminates or substantially reduces the need for office accommodation, research support, or secretarial assistance. Also, there is no vacation pay or study leave because these things are provided by the primary employing institution.

Summation. There are high fixed costs associated with distance education, and it follows that unless a large number of students are to be served, the cost per student will be as high or higher than that of a traditional system. However, as we have seen in this section, economies of scale are possible, particularly in situations where unsophisticated distance teaching, using printed material, is the mode.

Britain's Open University confirms that large student enrollments do result in a favourable cost-benefit relationship. However, this is only so if the distance teaching component in lifelong learning is the predominant mode; in the Open University it is. If face-to-face sessions on campus, and residential episodes are included in the program they unbalance an otherwise favourable cost-benefit relationship.

Other non-traditional methods, such as those emphasizing a systems approach, have found their way into universities and colleges from the military. The main advantage claimed for systematizing is that more material can be learned in a given time, and that learning this way is cost-effective.

Systematizing, whether in the context of Distance
Education or other systems approach paradigms, depends upon a Management Information System that gathers data, processes it, and leads to the development of a plan. This is a condition that does not have much congruency with the incremental style of management that characterizes the administration of traditional educational institutions.

Where a systems approach has been adopted, whether it be the military, Britain's Open University, proprietary correspondence schools, or the much spoken about Personalized System of Instruction at Arizona State University, cost-effectiveness has been reported. The Personalized System of Instruction makes the claim - one upon which its cost-effectiveness is clearly based - that more material can be taught in a given time by the system.

Some educators find it disturbing to have to give ear to such pragmatism, fearing, as is their right, that education will dwindle away into nothing more than job training, and that life will collapse into a mere mechanical routine. I think such fears unjustified, but lifelong learning has to be viably financed, and the present fiscal constraints throughout the educational system are such that we may have to choose between either a live dog or a dead lion.

IV. What technologies are considered to be currently or potentially facilitative of lifelong learning?

Alfred North Whitehead believes that a teacher has two functions: "To elicit enthusiasm by resonance from his own
personality, and to create the environment of a larger knowledge and a firmer purpose" (195:49)

For the lifelong learner generally, and the distance learner in particular, we look to technology as a "compensating agent" for the lack of the one-on-one real-presence interaction that is associated with a traditional education environment.

Technology has reached a level of sophistication that arguably enables it to convey not only the thoughts but the presence of master teachers to a theoretically unlimited audience.

In this section, the types and characteristics of established, as well as innovative, technologies will be examined insofar as they are employed in post-secondary educational institutions.

**Television.** Television was given a high profile by Britain's Open University as a course delivery medium, and for a considerable time was viewed as indispensable in distance education.

Pavio expresses the opinion that television assists learning by enriching imagery: "Cognition in general is viewed as an elaborate audio-visual system ... our knowledge of the world and language behaves in some real sense, like an elaborate film library with verbal communication" (Bates, 8:47).

However, there appears to be no substantial body of
knowledge on how individuals learn from television as distinct from learning from other media. Bates points out that it is now possible to identify some key issues which relate to how people learn from television, as distinct from other media. The issues, as Bates sees them are:

1. The extent of learning from television will depend very much on the control the learner (or teacher) has over the medium. The scope or potential for learning from television is considerably extended if playback facilities are available.

2. Television, like any other medium, is a means of presenting knowledge to a learner, or enabling a learner to develop mental skills.

3. Each medium presents knowledge in a different way, and hence provides a different experience or 'way of knowing.'

4. There are two separate educational aspects of a medium: the Teaching function - ways in which television presents knowledge; and the Learning function - what the learner does with that knowledge (or what it does to him). This relates to a distinction between content and skills.

5. It is possible to identify teaching functions that are specific to television in any given context.

6. Learning from television depends on learners' having the necessary skills to 'decode' or 'recode' information in ways which lead to the development of mental skills.

7. Effective learning from television also depends on the correct choice of medium to best represent the learning task in hand.

8. Television can present unique opportunities to develop and practice high-level learning skills; but the development of such skills is difficult, and learners require special training in the educational use of television.

9. Little is known about which mental skills are best developed through television.

10. Little is known about the process of learning from
television (8:47).

Although there appear to be many "unknowns" associated with television as an educational medium, it has nevertheless been widely used in distance learning systems. Persuasive arguments have been put forward in support of educational television broadcasting. It allows learners to see, either by integrated video sequences or directly on-camera, situations and processes that they would not otherwise have an opportunity of seeing. This applies equally to on-campus closed-circuit television as it does to broadcast television. The presentation of laboratory experiments can include close-up views and repeatability. It has been suggested that many of the laboratory experiences mandated by the curriculum could be purely demonstrations rather than hands-on participation by the learners. It is argued that the point of an experiment is probably better made by expert demonstration than by putting a group of learners through what amounts to no more than a dexterity test. Furthermore, the television studio, with its capacity to integrate video sequences, include still pictures, diagrams and charts, is of considerable assistance to a lecturer who wants to develop a smooth, repeatable lecture without the hitches that usually accompany a live lecture with mixed media back-up. This adds a quality feature to lectures via television.

In that broadcast television can bring learners close to reality and be used to show inaccessible and unfamiliar
environments, the medium is considered by its proponents to be superior to audio-cassettes. Some researchers consider that both of these media exert a greater affective influence than print-based materials.

However, there are few single institutions that can afford the expensive level of production which student audiences expect. Most of today's learners have grown up under the influence of highly sophisticated commercial television productions. Consequently, there has to be a compromise if costs are to be reasonable (Zigerell, 201).

Britain's Open University, while acknowledging the "shop window" function of educational television, has reduced the required viewing time for its students to approximately 10% of the course. Production costs and problems of obtaining sufficient and convenient scheduling are cited as the reasons for this cut-back.

There are pros and cons to Television teaching, and the literature reveals that what is acceptable to some learners is not to others. For example, and as Holmberg reports, critical students do not want course material presented on TV which can be equally well presented in print; they feel the same about formal lectures (81:70). Others find television to have a strong motivational influence, and concomitantly there is a pacing effect in Television teaching that encourages course completion (ibid.). Perhaps the most problematical area in Television teaching is in the transmission of some kinds of
abstractions. Abstract ideas are subject to misinterpretation unless the teacher himself or herself checks constantly to see that the students have grasped the matter correctly. Such checking often requires a kind of by-play which tests the wit and keenness of teacher and student. Real human contact is necessary to enliven these proceedings.

**Video cassettes.** The video cassette addresses Bates first criterion (p.206) for learning from television. The video-cassette has distinct advantages over broadcast television because it is interruptable, thus allowing learners opportunity to reflect upon the material presented without losing the thread of the program itself.

The cassette replay equipment is readily available and is easily operated, allowing stop, pause, and replay of permanent program material, in contrast to the transitory nature of a broadcast program. Additionally, learners have choice of viewing time and place convenient to themselves, and when the student's individual learning needs and the recorded material are most congruent.

Other advantageous features of the video-cassette include its re-usability without significant loss in picture quality; playback is immediate. Tape editing is a non-specialist task and can be done by teachers themselves if they wish to produce their own video program. Also, video cassettes of broadcast television programs and specially set up live sequences can be made and saved for later possible inclusion in course
material.

Audio cassettes. These share advantages identical to those of video cassettes as far as the learner is concerned. They are an inexpensive medium, and are frequently used to support print-based distance learning. The audio cassette is used not only as a means of conveying course material, but also as a tutoring "channel" between the teacher and student. In the former case, the recording can be of an actual in-house, or on-campus lecture (one especially developed by the institution's production team); in the latter, it can serve as a one-on-one personal communication link between the teacher and the student, evoking the same motivational reaction that would be obtained were the telephone to be used or other type of non-contiguous interaction such as E-mail.

The use of audio cassettes in a tutor-role is generally considered to be an important feature of this technology, in view of the personal contact it establishes between the learner and the educational institution.

This "humanizing" aspect of the audio cassette in its tutor-role has been researched and confirmed by Britain's Open University and has resulted in the following parameters:

1. Tutor cassettes are designed to support students in their studies. The cassettes should not add to the amount of course material, rather, their purpose is to facilitate study by clarifying difficult concepts and by guiding students in their review of material, or by providing advice on assignments.

2. Tutors get to know their students through correspondence with them or possibly through occasional tutorial contact at a learning centre. Tutors can utilize this personal knowledge when
making tutor cassettes.

3. Tutor cassettes are tailored to meet the specific needs of the students, and are made and sent to the student at the "right psychological moment."

4. The cassettes are recorded by the tutor on an ordinary domestic cassette recording machine, either at home or at his faculty office. There is no attempt to match the technical quality of the cassettes with those produced by course teams under studio conditions (International Council for Distance Education, 89:20).

An evaluation of the use of tutor cassettes by the Open University in Britain confirmed that cassettes of acceptable quality can be made using domestic-style equipment. Of the students whose opinion was sought, 90% considered tutor cassettes helpful or very helpful; 66% said they would like tutor cassettes used more frequently. However, some students did not like using audio cassettes at all; they preferred written notes or some other form of contact with their tutors (ibid., p.21).

In Canada, the University of Waterloo in Ontario uses audio cassettes extensively in the correspondence courses conducted by the University's External Studies Division. A one-semester course comprises some 20 cassette lectures, supplemented by printed notes and textbook(s). The quality standard of the program is recognized by other Canadian universities in that the University of Waterloo correspondence courses are accepted for full academic credit.

Printed material. Holmberg is uncompromising in stating "There is no doubt whatsoever that print, in the form of
printed texts, is the most important medium for subject matter presentation in distance education" (81:69).

Ruggles sees printed material to be a traditional and entrenched medium in society for transmitting information, and it is an economical way of doing so (149:7).

Contemporary printed material is enhanced by multi-colour illustrations, overlays, charts, and tables. The modern textbook represents a considerable advance in print technology and graphic artistry.

Textbooks are supplemented with a teacher/tutor-written study guide which personalizes and paces students' learning as well as helping to clarify some abstruse points in the textbook.

Printed material is usable in a wide range of study environments, and learners are able to exercise their own control over time and location of their studies. An important educational and economic factor is found in the relative ease with which printed material can be updated through rewriting or adding to the study guide.

Holmberg, referring to the Conclusions of the Swedish Delta Project, says that students did not wish to hear formal lectures which, if put into printed form, can be read in less time than is required to broadcast them by radio or TV. In printed form, the lectures can be repeatedly reviewed by students (81:70).

It has been estimated that 60% of students' study time at
Britain's Open University involves the use of printed materials (Ruggles, 149:7). Because of its low cost and continual use in traditional classroom settings, printed material will likely remain a major delivery method for learning at a distance (ibid., p.83). Holmberg agrees, and says that "there can be little doubt that, for all serious study, the reading of printed material will remain a prime media - often in combination with audio cassettes" (81:92).

Others hold similar viewpoints, believing that texts and other printed material are essential in the teaching of complex ideas and abstract concepts, the latter usually requiring the augmentation by verbal expression rather than visual, since abstract ideas cannot be photographed (Sparkes, cited by Neil,116:113).

Computers. The role of the computer in distance education is as yet not fully determined. As the general population's ownership of personal computers increases, the computer, as an instrument of continuing education, will undoubtedly be more widely employed. One enthusiastic commentator has said that "The high sophistication of computer technology stands ready to reduce to pedestrian levels many of the teaching/learning technologies considered avant garde less than 20 years ago" (187).

According to Hall, the computer, coupled with the interactive capacity of telecommunications technology, has the capacity to make dramatic changes in the operational
structures of the university. He sees improved system flexibility and convenience, as well as individual feedback and evaluation, both for attendance and off-campus students. He maintains that the computer will improve access to higher education opportunities (70:105). Even so, while computer systems are steadily invading all levels of education, the situation at present does not indicate that computer technology is about to become the principal medium for instruction in universities any time soon. This is not to say that educators and education planners are not vigorously experimenting with computerized instruction, as will be shown later in this chapter. However, there are philosophical issues involved, and these, as will be seen in the Comment (page 249), cannot be ignored.

The prediction by Shostak regarding some of the computer scenarios on the horizon could, were it to come to pass, or seem to be coming to pass, raise many serious philosophical questions.

We may school anywhere, any time, in two-way dialogue, drawing on incredible back-up resources, and with anyone. This synergistic link of communications and computer capabilities makes possible bookless libraries, paperless news [Teletext], teleconferencing, portable language translators, and campusless and professorless universities (Ontario Teachers' Federation,132:12).

Notwithstanding the evident flexibility of computerized learning systems and their clear potential in the field of distance learning, the reality of the situation is that, even though it seems that almost everyone possesses a computer, the
PC is not yet a universally-owned household appliance, and thus no authoritative predictions can yet be made concerning the utility of computers in a lifelong learning system.

Computers in education per se, however, are making a definable and measured contribution in the development of the teaching-learning environment. For example, Beard and Hartley observe that the computer can cope with a class of widely differing ability, whereas in the lecturing situation, the teacher tends to address the students of average ability; the computer uses different modes of response according to a student's needs; records of students' performance are available to them for feedback and guidance. Such records permit monitoring of the course as a whole, showing if and where the program should be modified. This is achieved by building in to the computer, test item analysis programs which evaluate test quality (10:225). The monitoring function also points out those students who require remedial work.

Also, Daly and Dunn have shown that the computer presents a psychological advantage in that learners more readily seek help from a computer than they would reveal their academic deficiencies to a teacher (ibid., p.223).

A further claim concerning the reduction in learning time achievable through computerized programs has been made by Grub and Selfridge, who found that a course in statistics could be taught more effectively in half the time required for conventional instruction in the subject (ibid., p.225).
Despite these and similar claims made by researchers and program developers, I have uncovered no substantive evidence accumulated over a significant time period in support of such claims. This leads one to consider that the effect of novelty could be a contributing factor to some of the success claimed for computerized education.

During the course of this investigation, I found some ambivalence among those educators with whom I discussed the role of the computer in education generally, and in distance education in particular. While recognizing the substantial contribution of the computer in the efficient performance of administrative and record-keeping tasks, most respondees to this investigation's questionnaire saw the fundamental problem in achieving the goals of higher learning in distance teaching and in computerized in-residence learning to be that of establishing human contact: tutor to student, and student to student, a recurring theme throughout the investigation.

Brewer touches on this in his comment that "by requiring learners to verbalize their thought processes, [as in a traditional education environment], other students may suggest an entirely new approach to the problem. The sharing of ideas in this way appears to promote a more critical mode of thinking" (14).

In my discussions on educational technology with other educators, I noted the following comments: "Where is the opportunity for spontaneity or the memorable humorous
episode?" "What opportunity is there for a student's unique perception that might challenge conventional wisdom?" "Don't we lose the 'spirit of the hive,' the teaching moment, and the influence of the gesture, and body language?" And, rather cynically, "It's not possible to have a 'meaningful relationship' with a silicon chip."

Evidently, in some minds at least, the jury remains out on some aspects of new technology's involvement in higher education.

Teleconferencing. Teleconferencing technology permits interactive communication via an electronic medium that carries audio, video, and text signals. Communication is effected by a two-way system. There are three types of teleconferencing: audio, video, and computer. Audio is the most commonly used because it is the least expensive to install and operate.

In a typical audio teleconference system, the regular telephone network is used and at each user's premises a piece of electronic equipment is installed that links up about 20 microphones (per premises) - one for each person participating in the teleconference.

Although teleconferencing is used to a large extent by government and business, it has not made an equivalent impact in education. Canadian universities use the system for administrative purposes and, to a lesser extent, for education (Ruggles, 149:13). For several years, the universities of
Carlton, Guelph, Ottawa, Waterloo, Western, and Wilfred Laurier have been using teleconferencing in collaboration with one another.

It is the interactive capacity of audio and video teleconferencing that causes it to be favourably regarded as a useful distance education technology. Educators who have had experience with teleconferencing echo the recurring theme that the feeling of being connected with others of shared interest is a desirable thing for many learners. However, there is a consensus that learning and teaching by teleconferencing does not replicate, nor is a substitute for the on-campus class (Graham, 66:31). Graham says that there is a significant number of distance learners who do not desire the sense of immediate connectedness that teleconferencing provides; they prefer less immediacy of interaction, such as obtained by studying at home through the mail (ibid.).

Teleconferencing technology was pursued with some enthusiasm a decade ago because it is an uncomplicated technology, using an in-place communication network - the telephone system. The development of the personal computer and the growth of the Internet, with its worldwide outreach, is upstaging teleconferencing in its audio, and much more expensive video, modes.

Also, as Graham points out, there are operational problems associated with the technology that educators find limiting, as illustrated by the need for the use of
special instructional techniques. Because students are more easily distracted without the physical presence of the instructor, and conversations take place without the instructor's knowledge, he or she has to make students participate. They cannot be listeners only; they have to be drawn into the discussion, otherwise the learning experience is adversely affected.

The instructor receives no visual cues, therefore it is impossible to tell if students are bored, perplexed, or confused; hence pacing is important and there have to be pauses for questions and comments from students (ibid., p.32).

The Interactive Videodisc. The Interactive Videodisc (IVD) is a technology specifically designed for the delivery of interactive video instruction (IVI). The technology comprises a videodisc player, a microcomputer, a video monitor with a touch-responsive screen, an optical scanning wand, and bar-coded text/workbooks. To use the system, the student runs the scanning wand over the printed bar-codes in the workbook, thereby accessing the video instruction bringing full-colour graphics and text to the screen of the monitor.

The video sequences expound and dynamically reinforce the information in the text/workbook by means of touch responses to the screen. The student thus interacts with the system by making choices or answering questions. By the use of push-button controls on the player, the video presentation can be stopped, advanced or reversed. Each video sequence is
accompanies true-voice (as opposed to computer synthesized) narration.

The IVD system involves sight, sound, touch, and motion; a combination that creates a sense of realism. The videodisc itself is not subject to wear and tear, and consequently picture quality - which is very high - does not deteriorate over time. The program capacity of a 12" videodisc allows for 58 minutes of full motion video. A particularly useful feature of the system is the random access to any full motion video segment or still frame.

The major benefits claimed for the IVD system are as follows:

* Compression of instructional time compared with an instructor-led class.
* Improved realism in simulations, e.g. simulation of equipment and medical intervention simulations.
* Consistency of training delivery.
* Good student motivation.
* Facilitates independent study.

Some of the disadvantages of the system are:

* High equipment cost.
* IVD programs require from 9-15 months to create.
* Not cost-effective for use with content that has a short life-cycle.
* Special technical skills are needed to produce a program.
* The IVD workstation is not easily transportable since it comprises several components and ancillary attachments (Neil,115:1-6).
The IVD system is currently at about the peak of its life-cycle, and while it has made a fairly deep penetration in business and industrial settings, it has not been equivalently accepted in traditional education because of the disadvantages inherent in the IVD system as outlined above. It is the cost of the IVD program design and development, and the hardware costs, that have continued to limit IVD use. Currently competing with it is a new generation technology which has evolved from IVD; it is a wholly digitalized system (Digital Video Instruction - DVI), which is expected to replace IVD by the year 2000. System costs are projected to be considerably lower that IVD.

**Multi-media Computing.** In a multi-media computing system, the benefits of an interactive videodisc can be obtained without the videodisc. The development of the system is following a parallel path with DVI, and the indications are that it will technologically surpass DVI. However, multi-media computing is still in an early growth phase, and the computer industry does not expect a significant expansion in adoption of the system until multi-media capabilities become an integral part of the microcomputer chip set (ibid.)

The major benefits claimed for the multi-media computing system include:

* The system is operable with a state-of-the-art microcomputer. Video and audio are integrated.

* Enhanced educational applications: Video can be changed to improve the image's educational effectiveness or creative effect.
* Audio and video editing can be effected on the microcomputer.

* Good portability, since the required multi-media hardware can be fitted into an existing microcomputer. At present, add-in cards are used - eventually the computer's chip set will include the multi-media function.

* The benefits and features of IVD are obtainable without the disc and disc player.

* Desk-top video-conferencing.

* Audio and video can be digitized into the computer in real time. This allows prototypes of media application to be inexpensively and rapidly created and refined.

* As with the IVD system, there is a compression of instructional time when used in an educational setting.

Some of the disadvantages of the system are:

* Multi-media capabilities require the microcomputer to possess significant disc storage. According to Corey-Columbus Consulting, 300-400 megabytes is recommended.

* The creation of multi-media instructional material requires skill. The more media brought into the material, the more complex the production process becomes, resulting in proportionate increases in production costs.

**Summation.** The technologies presented in this section show a progressive, evolutionary trend towards the materializing of an optimum system incorporating state-of-the-art technology.

Access, cost, convenience, content, and quality are the foci of educational technology, and are of major concern to the lifelong learner.

No matter how sophisticated the technology in terms of
its service to the learner, the educational material it dispenses or conveys has to be carefully developed, and frequently updated. The costs of doing this can be considerable. There is no free lunch! Committed pragmatists continue to urge that things should be kept as simple and as low cost as possible. This is a laudable principle, but technology is not cheap, and it is probably better to insist that whatever technology is used in education, it is cost-effective.

Apart from the convenience factors associated with technology, the claim that it compresses learning time has to be a very significant advantage. This means learners learn more in a given time than they would without technological assistance. Compression of learning time is a critically important consideration in the developing of a lifelong learning system gearing to accommodate an extremely large number of potential participants.

There are confirmatory data that learning time compression is significant when technology and the associated systems approach are employed. However, the literature says little about the sustainability of this advantage, and we are entitled to suggest that a novelty effect may be having a positive influence. But that is another issue. It is apparent that lifelong learning will become a technology-based activity.

The technological evolution in education started with
print-material, and has now progressed to the microcomputer, picking up, en route, radio and TV broadcasting, audio and video cassettes, and the computer-related technologies. Thus an inventory of technologies has been created upon which educators or educational institutions may draw, depending upon contextual requirements and financial resources.

The technology appearing to show the most promise for the future for lifelong learners is multi-media computing. As the microcomputer assumes the status of common household appliance, its affordability and versatility will make it a viable home terminal for all would-be learners, not only university- or college-linked distance students. Other technologies will have diminished roles and will become obsolescent.

The concept of an in-home, real-time interactive teaching terminal gives the learner easy access to university and college, as well as an array of in-house and other educational opportunities conducted by the learners' employers or other educational agencies in the private and public sectors.

V. What are the salient features of a systems approach to education and how is the approach complemented by computer-assisted delivery systems?

The Systems Approach. The origin of the systems approach is to be found in the work of John Dewey. He recognized the sequential nature of problem-solving, and although he did not use the term systems approach or scientific method, this is what his philosophy amounted to (53:101-107).
A systems approach to the solution of a problem involves taking a series of logical steps, namely:

* Defining the problem.
* Data gathering.
* Identifying alternate solutions.
* Evaluating alternatives.
* Selecting the best one.
* Implementation.
* Evaluation.

The contrast to this approach is found in uninformed opinion, intuition, and the lack of rational thought and action, in short: "flying by the seat of one's pants"! The systems approach is conducive to bringing order, unity, and manageable to complex matters. Education is a complex matter and is becoming more so in view of the different technologies that serve it, and the rapid accumulation of new knowledge that it attempts to dispense to a growing and heterogeneous clientele of full and part-time learners. A system is needed to pull all this together into a coherent, economically viable entity.

A more scientific definition of the systems approach is given by Hartley: It is "an orderly way of identifying and ordering the differentiated components, relationships, processes and other properties of anything that may be conceived as an integrated whole" (73:23).

While education in its structural entirety may be
viewed as a system, the most important subsystem of it is the actual instructional process itself. The individuals whose primary professional concern is with the instructional process generally regard this to be "the system" and therefore do not involve themselves with the systemic aspects of education as a whole.

Systematization of the instructional process involves all the elements thereof: the teachers, the technology, the timetabling, and so on, all being integrated into a fluidly inter-responsive, unified pattern. The main features of systematized instruction are as follows:

1. Best-path selection is offered to individual students, thereby giving them a high probability of program goal attainment.

2. Individualized learning.

3. Learning is student-paced, thus allowing each person to proceed at his or her own best rate.

4. The use of technological methods, or innovative non-technological methods help to create and sustain motivation and learner participation.

5. Self-teaching is encouraged and facilitated.

6. Teachers spend less time on non-teaching activities.

7. Privacy of study.

8. Flexibility of study in terms of time and place.

9. Compression of learning time (Tremlett, 184:17).

While the systematized instructional process can take different forms (e.g. distance teaching, PSI, PBL), the above stated features are, in varying degrees, found in each form.
In order to present a generalized illustration of the systems concept in instruction, I draw on Harry Hartley's rationale for the management of the instructional process. The diagram is constructed in the context, and uses the terminology, of the systems approach:

In terms of the conventional teaching function, this system "translates" as follows:

Data base comprises literature sources, experiences, thoughts.

Control represents the teacher or tutor who selects the information to display to the students.

Display represents the page number in a text, an oral presentation, or that which is written on a chalkboard. The Student responds to the displays.

Monitor refers to the checking of the student's responses.
for accuracy, relevancy, promptness, and so on. A "Control decision" is made concerning repetition, change, or the sequence of subsequent displays.

Analysis refers to the scrutiny of the information patterns and their implications for the overall program design (e.g. test item analysis) (73:61).

Interpreting this schema in terms of educational technology, the Display function translates into a mix of audio-visual equipment, video terminals, and computer interlinks, as well as printed workbooks and hard-copy from computer-linked printers.

The Control, Monitoring, and Analysis aspects of the system can be relegated almost entirely to computer-management. It is here that the potential exists for the instructional process to become, in essence, a student-machine interface. Converting the instructional process to a computer-based system permits the Display function to be dramatically enhanced in terms of complexity and magnitude. Student responses and the Analysis, when computer-managed, allow, according to Hartley, for a level of individualization that has been unattainable in education until now (ibid.).

Other perspectives on Systematizing. Current fiscal restraints and increasing demands for continuing education have highlighted considerations of efficiency. Economic efficiency in education is intended to promote better usage of all of the scarce resources that contribute to the
instructional process and administrative procedures. The judicious use of the systems approach is considered a way of doing this. I use the word "judicious" advisedly since the enthusiastic pursuit of efficiency should not take precedence over the attaining of instructional goals. Associated with this is the disinclination of educators, generally, to engage in attempts to quantify all aspects of education - a social system - as if it were an engineering enterprise. Hartley expresses these concerns perfectly when he says

"The potential danger is that systems analysis should be viewed, not in a narrow context, but in a broad sense as a planning procedure for relating curricula objectives to human and material resources. It is not a restraint device that mandates decisions strictly on a cost basis with the quantitative measures of economic calculus. If it were, education would revert to the scientific management era with its "cult of efficiency"." (73:50)

Such inefficiency as is found in educational institutions is more likely to proceed from high drop-out rates, poor timetabling, poor co-ordinating of various teaching aids and resources, and poor decision-making.

The increased use of the systems approach does not carry with it the inference that current educational practice is grossly inefficient, because the inclusion and adoption of systems procedure can augment current instructional practice in that it brings about a revitalization of traditional procedures, resulting in a more motivational learning experience.

The advantages claimed for systematized delivery of
education are significant - even impressive - yet one detects potential danger in oversystematizing. This has to do with the real possibility of making a cult of achieving efficiency at the expense of losing the human edge of the educational process.

In Chapter 3, the Keller plan for a Personalized System of Instruction (PSI) was briefly discussed. This plan is an example of systematized education in elemental form. It is fully realizable without reliance on technology. However, the two computer-assisted delivery systems, profiles of which follow, elevate the basic PSI concept to a level of operational versatility and productivity previously considered hard to attain because of the relative labour-intensiveness present in non-technology systems.

Computer-Assisted Instruction (CAI), also known as Computer-Assisted Learning (CAL), is primarily a delivery system for self-study and frequently requires the use of print materials and/or workbooks to supplement and "map" the program. CAI, in and of itself, represents a quintessential systems approach to education since it requires the analytical, sequentially-stepped planning, development, and implementation common to all computerized activity.

CAI came into existence about 20 years ago, but it was not until the advent and popularization of the microcomputer that CAI began to reach out to a "growth market." It is still growing and is expected to continue to do so through to the
end of the century. Business and industrial corporations find CAI cost-effective, and cite the following major benefits obtainable through its use:

* Compression of training time.
* Learning is student-paced.
* Significant reduction, even elimination, of instructor direct involvement.
* Immediate availability of instruction.
* Simulations of real-world environment (investment decisions, operation and repair of complex equipment, as in aerospace or medical environments).
* Education can be de-centralized (as in distance education).
* Instruction is consistent in style and content.

The course content presented by a CAI system uses three basic strategies: tutorial, drill and practice, and simulations. Tutorials are interactive sessions, student-to-computer, in which the learner is given opportunities to demonstrate understanding by answering questions and applying his or her knowledge in the solution of problems, given either on the video monitor or in accompanying print material. In drill and practice, skills are "taught" to a predetermined level of proficiency via practice sessions. This practice is provided by the computer until the learner achieves mastery. Computer simulations give the learner an opportunity to learn in a realistically contrived on-the-job environment in which a specific situation is presented and with which the learner has to grapple. It is via such simulations that CAI has
apparently shown its effectiveness, particularly in the development of complex decision-making skills.

CAI has particular utility where the following teaching/learning needs and conditions prevail: The student constituency is very large and the instructional program content is not subject to change, that is, become soon outdated; immediate interactivity between students - individually - and the system is required or desirable; mastery learning needed; realism is necessary, using the full capability of the computer to provide it, particularly in engineering and scientific subjects.

But as we have previously noted, there is no free lunch, and CAI has its down-side. For example, it takes a long time - up to a year - to plan, design, develop, and test the computer program with highly skilled personnel. This means that higher up-front costs are involved than in conventional teacher-led instruction. It is evident, therefore, that CAI is unsuited for the presentation of subject matter that has to be frequently updated to reflect state-of-the-art. Furthermore, a CAI system needs a "support structure" that will assist students to use the system competently (Dennis, 203:pp.2-4).

Nevertheless, CAI is very much in a growth mode and is usable with most current computer hardware configurations.

**Computer-Managed Instruction (CMI).** Computer-managed instruction manages instructional activities; it does not deliver them. Delivery of instruction may be by self-study,
printed material, or CAI. Some CMI systems automatically route the learner to the appropriate CAI modules.

The function of CMI is to deliver tests to the learner and, based on the test result, determine the next instructional activity. Some CMI systems will present the learner with specific guidance as to what he or she should do in order to master a particular topic. This might include instruction to refer to particular textual materials or to participate in specific learning activities, and so on.

The particular advantages claimed for CMI are: on-demand testing; reduction in test administration time through computerization of test scoring and record-keeping; control of subject matter prerequisites by ensuring that all learners have attained a prescribed level of subject mastery before proceeding to the next program element; overall instruction time is reduced by allowing learners to bypass material of which they already have good knowledge; the system can be quickly developed and is of moderate cost.

There are no striking disadvantages in CMI except that, as in virtually all testing systems, absolute test security is not achievable - but it can come close.

The system finds its usefulness with volatile subject matter - in contrast to CAI. Also, CMI answers the need for on-demand, secure testing for learners who study independently.

CMI is usable on micro- and mainframe computers. Where
the reporting of students' progress and the accumulation of performance data is required by the educational institution's central administration (assuming the microcomputers are dispersed in many different locations on campus and elsewhere), the use of a local area network (LAN) is necessary so that the test results of all learners can be consolidated.

Significant use of CMI began in 1985; however, its use is increasing as more organizations and educational institutions become familiar with its technology, and experience confirms it as a facilitative system in non-classroom learning modalities.

Summation. This is an era in which virtually everything is being systematized and computerized in the pursuit of efficiency and productivity. It follows that educational institutions cannot escape being analyzed as systems. Indeed, there are sound reasons for doing so, as this section has shown. Education is an intrinsically inexact process and is permeated with possibilities for human error, as well as the infelicitous consequences of intuitive or emotional decision-making. Systematizing, with or without the augmentation of technology, attempts to maintain the administrative and instructional process on a rational footing, the overall objective being to get all the disparate elements that comprise education into properly managed unison.

Treating education as a system helps create a conceptual framework that allows the integration of different teaching
modes and technologies. Systematizing does not necessarily involve technology per se, as observed in Chapter 3 where the Personalized System of Instruction (PSI) was touched upon. However, CAI and CMI are systems in themselves, and can be either a dominant or subordinate component of a total educational system.

Computerized education, particularly CAI and CMI, possesses those features that define systematized learning and the student-centredness that characterizes it. These systems are claimed to be cost-effective, and time-saving for the learner. Furthermore, the heterogeneous and growing numbers of part-time learners, particularly those whose preference is for self-teaching, are given access and options through computerized learning systems.

Also, there is almost unlimited potential for "interconnectedness": campus-to-campus; country-to-country; student-to-student. Almost any communication configuration is conceivable.

Clearly, technology-driven learning systems both support and extend lifelong learning strategies by moving the educational process away from critical dependence upon a physical classroom.

VI. What is the status of Problem-based Learning (PBL) as a delivery method in a lifelong learning system?

Philosophy and method. Problem-based learning first gained attention as an innovative, non-traditional educational
method through its application in training medical practitioners, an area in which considerable success has been claimed for it.

In PBL there are to be found Knowles' "facilitator," self-directed learner, and "emergent curriculum," as well as Paolo Freire's dialogue with students. Thus, while the elements that comprise PBL, in and of themselves, are not particularly unique, their organized combination in the PBL methodology has created a wholly different approach to medical education. Proponents of the method claim it to be applicable in any subject area.

PBL is essentially a self-teaching system since learning takes place through groups of students being assigned a problem for them to solve using their own initiative. By finding the problem solution themselves, students not only get the information, but they learn how to access it the next time they encounter a similar situation in a real-life setting - so the argument goes. The program facilitator suggests, but does not provide, resources that students may use in their quest for solutions. This can involve library research on specific aspects of the problem; consulting with qualified practitioners, and engaging in practical work in a simulated or real-world environment. The traditional classroom situation is substantially abandoned, as are assigned readings. Emphasis is given to the use of frequent small
group consultations between the facilitator and the students. Such consultations concentrate on strategy for dealing with the problem, not on the technicalities of subject matter. The facilitator is not, nor is intended to be, a subject expert. He or she practices Freire's philosophy of engaging in dialogue with students and also promoting dialogue between members of the student group. Such dialogue is more than simply listening to each other; it involves checking of understanding; allowing one's ideas to be criticized by others.

While the facilitator assists in the establishing of goals for the learning activity, such goals are, in fact, the unique goals of the individual learner. The learning activities will be those that the students themselves, individually, determine they need, as opposed to submitting to a preordained sequence. The facilitation itself has, therefore, to be non-directive; it is a matter of helping to clarify and plan the learning experience for each group member.

The facilitator has to develop a sensitivity as to how and when intervention is warranted. This is, for the facilitator, an ongoing decision-making process. While the learners themselves undertake most of the evaluation of the learning experience, the facilitator is also involved, albeit in a non-authoritarian way. It is clear that the role of a PBL facilitator is manifestly different from, and perhaps
harder to fill, than that of a traditional teacher.

The philosophical roots of PBL can be traced back to John Dewey and Jerome Bruner, whose ideas gave rise to the concept of self-directed learning and problem-solving learning. The abiding truth upon which PBL is based is that learning in a contextual, relevant environment is more readily maintained. This is essentially an articulation of Dewey's thesis that educators should utilize the physical and social surroundings in order to extract from them "all they have to contribute to building up experiences that are worthwhile" (53:5-6). This emphasis on the use or simulation of a real-life situation is the predominant feature of PBL. Equally "real-life" is the shifting of overt instruction of the student to the student as searcher and questioner. Students interacting with each other and making decisions concerning the resources they might use, create an authentic, rather than a pseudo-, or wholly scholastic, environment that characterizes traditional education.

PBL used in medical education has been favourably reported on by Friedman (61:8-14). However, I have not been able to uncover quantitative information relating to the effectiveness or otherwise of the method when used in the educational activity associated with other disciplines or subject areas.

Superficially, there is an appearance of lack of structure but in fact, and as Hoffman confirms, PBL requires a
high degree of organization. Monitoring and tracking the progress of individual students who are given substantial responsibility for their own learning calls for an emphatic systems approach (79:7 et seq.).

**PBL and Distance Education.** There is no evidence of PBL's having yet been used in distance education. However, a revealing scenario for doing so has been postulated by Hoffman (ibid.). He suggests that the starting point should be the curriculum and course goals, followed by a statement of the methods thought most workable to attain these goals. Essentially, this translates the course into a mix of learning activities after which appropriate delivery channels can be selected and developed. To do this, a list of the communications channels available needs to be made. Such channels might include e-mail, print media, cassettes, and the World Wide Web. Hoffman sees the next step to be the preparation of a list of possible interactions that would establish a viable environment. He is not specific about this, and neither does he explain how the students individually "input" the system with their own needs and objectives. Similarly, no structural concept of how groups are formed is presented, except to say that students should be encouraged to "report" to each other either face-to-face (!) or via various communications channels. In so doing, says Hoffman, they will keep themselves "on track." He puts forward ideas of forming a news group on the Web; the
judicious use of an e-mail distribution list. Also, students might organize themselves by posting their interests on a website and then follow up by contacting each other by e-mail.

In order to assess progress and for students to consult on the next moves they should make, Hoffman visualizes the facilitator "meeting" with students via a teleconference with dispersed student groups or via an on-line "chat." Hoffman considers the scenario he sketches for PBL via distance learning to be a "deceptively simple process," but I doubt this view would be shared by experienced distance educators. Important aspects of the proposed system that he has not discussed in detail but mentions in passing include: the maintaining of student motivation; the maintaining of an active and high level of communication; the evaluation of individual and group activity; the provision of timely feedback.

The numbers of variables to be detected in this proposal, and the organizational structures that would have to be introduced, suggest a level of complexity that does not encourage enthusiasm for the pursuit of the notion. As a Parthian shot, Hoffman says that "an array or set of communications channels will be necessary to support learning in deep and constructive ways; a single channel like video-conferencing or e-mail would not suffice by itself" (ibid.). Hoffman's proposal, indeed the concept of PBL in distance education, is almost too complicated to contemplate.
PBL challenged. PBL is a learning system predominantly based on student-directed learning. However, self-direction of learning is a concept that is not wholly accepted by educators, and in some cases, is even strongly opposed. Notwithstanding the enthusiastic adoption of PBL for the training of medical practitioners, there exist doubts in the minds of some educators concerning the feasibility of wider use of the system.

It is necessary, therefore, for us to take a look at some of the opposing views. Knowles argues that all adult learners are self-directing, and defines adulthood specifically in terms of self-directedness (Poud, 13:162).

However, this is a questionable assumption since there is significant evidence that many adults are far from being self-directing.

Carl Rogers has said that about a third of learners are self-directed individuals, the rest being people who "do just what they are supposed to do." (ibid., p.164.).

Danis and Tremblay comment that even if self-directed learning outside formal instructional settings is as widespread as some writers, such as Knowles, claim, this does not necessarily mean that people want, or feel able, to exercise control over the teaching/learning situation (50:138-143). Candy pursues this theme by saying that even if learners do see themselves as self-directing, and eventually would like to take entire responsibility for their own learning, they may
lack the subject matter knowledge to set about it. He then goes on to argue that, just as many researchers on self-directed learning stress that adult learners choose to undertake self-directed learning projects specifically to avoid the constraining structures imposed by traditional methods, so those individuals who deliberately seek out and enroll in planned learning experiences via structured programs may have very specific expectations about the type and amount of direction and supervision they are likely to receive. To disregard this is, effectively, to force the learner into a self-directed mode which he or she is either unprepared for, or does not want. It follows that learners who want or need a more directive approach are less well served. Deardon makes the point that individual differences in learning style are enlisted as justification for self-directed learning, while there is little or no provision for differences in respect of individuals' willingness to be self-directed learners (Boud, 13:164).

It has been suggested that there is a practical reason for shifting control of learning to the individual learner, namely, teachers faced with the characteristic heterogeneity of adult learners as a group, incline to support learner control to make life simpler for teachers. The latter is, in my opinion, a spurious argument. Snow looks at the issue more penetratingly by suggesting that giving control of learning to those able to handle the responsibility that goes along with
such freedom may well increase their natural advantages, while putting those without such ability at a relative disadvantage (162:151-158).

In PBL, the acquiescing to students' individually-expressed learning needs and specific goals amounts to "putting the cart before the horse." Boud, for example, is clearly of this opinion, as evidenced by his comment that modifying programs' prescribed content and/or mode of presentation to comply with learners' demands is to make the educational experience a reactive, instead of a proactive, process (Boud, 13:163). The determination of course content and process being subject to learners' individual preferences presupposes they are in a position to direct their own education. Some may be; some are not.

It is claimed that self-directed modes of instruction provide the dual benefits of avoiding imposing unwelcome direction upon learners, and fostering motivation in learners who have been responsible for selecting or shaping their own direction. This is purely assumption, and is also a fallacy. Hamm comments that "being motivated to do what one wants to do is either a tautology or not a problem. Instilling in students the desire to pursue what is in their interest to pursue when they lack the interest initially is the motivational problem in education" (71:82-106).

Learning facilitation and self-directed instruction as
practiced in PBL is regarded by some educators as being too democratic. However, such a viewpoint essentially disputes the pervasive assumption that the concept of learner-centred control gives equal respect to the needs of each individual learner, and that the teacher and the learners should have an equal "say" in deciding the direction and content of the educational experience. On the face of it, this appears incontestable, but as Candy observes "So deeply ingrained are our notions of political equality that we easily and unwittingly apply the same criteria to other domains of our lives. Moreover, many others have an almost instinctive reaction against the notion that one adult might have, or be seen to have, power over another, and the inequality which such a situation implies is anathema" (30). The authority of the teacher derives from his or her expertise in a particular subject or discipline. Candy expands on this by saying that he would be dismayed if a surgeon or a mechanic denied his or her special expertise in the name of a spurious democracy (ibid.). The facilitator in PBL is purposely non-authoritarian and non-directive, which could give rise to the legitimate observation that some students would feel cheated if, having enrolled in a course of instruction, they found that their "teacher" denied any special knowledge of the subject and insisted instead that the enrollee himself or herself had the ability and the responsibility to "discover" the needed information and to identify learning goals. Is it
not authoritarian and non-democratic for an educational institution (or a teacher in the name of that institution) to impose upon students, without consulting them, a system that requires them to assume such a degree of responsibility for their learning? A truly democratic system should leave the learner free to choose between directed and self-directed learning as he or she perceives the need.

Thomas has an interesting comment on self-directed learning and the democratic learning environment. He sees self-directed learning as placing the students in a conflict situation and suggests that problems could arise if the learners are working, or intend to work, in a highly structured authoritarian organization, such as the military. He sees an incongruity if learners are involved in self-directed, collaborative learning and general discussion, because there would manifestly be one sort of behaviour and value system in the educational environment, and quite a different one in the employment situation (Boud,13:173). The converse, of course, is also true: highly structured methods are inappropriate in the education of social workers, and occupations of that ilk.

As to problem-solving, the critical component of PBL, particularly small group problem-solving, this is a skill in itself - it is not intuitive and it cannot be "picked up" en route. The dynamics of group problem-solving involve the following impediments:

Individual blocks to idea generation still apply
(group members are fearful of looking foolish and are critical of their own and other peoples' ideas). Personality traits interfere with an objective assessment of ideas.

There is a tendency to "oscillate" between idea-generation and evaluation.

Either the appointed or emergent leader can use a mock democratic process to advance his or her ideas.

Genuine, or self-styled, experts in the group tend to reject or ignore ideas from non-experts.

Group problem-solving is costly in terms of resources, time and effort (Rickards, 144:14-15).

There is no comprehensive quantitative evidence which justifies group problem-solving as being significantly efficient and effective in the training of anyone in any subject, nor can substantive disputation of impediment #6 be found.

Commenting on various innovative, non-traditional delivery systems, Tough maintains that there are few differences between the achievement of students working in self-directed modes and those taught in conventional classes (183:17) and McKeachie states that the expected gains in ability or higher motivation (in the self-directed mode) have not materialized (ibid.). These comments are supported in a paper by Schmidt et al in which they present conclusions that do not show PBL significantly ahead of conventional methods (154).

Summation. Problem-based learning philosophically has sound credentials: it is andragogic; its two salient
functional characteristics are self-directed learning and small group work. While PBL has been successful in the training of medical practitioners, its aficionados' claim that it can be effective in the teaching of virtually any subject is not supported by evidence of extensive, wider adoption.

Hoffman's scenario for the application of PBL in Distance Education suggests administrative complexities, and discontinuities in the actual learning process confusing to the distance student and educator alike.

In an appropriate context - and medical education appears to be such - the concepts of autonomous learning, learner-control of the education process, learning facilitation, and so on have been shown earlier in this investigation to possess particularly advantageous features supportive of the psychology of adult learning. However, those that challenge PBL do so with sound enough arguments, but not, however, entirely in the context of the PBL system per se. It is possible to find flaws in self-directed learning but when self-direction is well-managed by the provider institutions, such flaws diminish or become of little consequence. However, one gains the impression - particularly after reading Hoffman's scenario - that students of high natural ability respond to, and benefit from, PBL, whereas those lesser endowed would have difficulties. Since student populations are represented mostly by the latter, this categorizes PBL as being more suited to the former. If PBL is offered as an optional
system, it could have a place in the constellation of methods that should constitute a lifelong learning system. Compromise and adaptation might bring PBL into wider use in subject areas other than medical training.

There are various circumstances where learners would choose to be taught, particularly at the start of the program. Such a choice would not necessarily imply a pathological lack of self-confidence but rather that the best way to master the rudiments of a new subject is to be taught by an expert, either in-class or via one of several more overtly directed distance education modes. Thereafter, the student might take up other learning options of his or her choice; PBL could be one. Also, students opting for PBL might be provided with self-instructional modules conjoined with the interactive group work. Clearly, there is more than one way of modifying any delivery system to accommodate the contextually appropriate philosophy and method. Each learning situation can be "systems engineered" but those that have charge of it should choose the most uncluttered path.

In modified form, embodying the sort of compromise suggested above, PBL could have a place in a lifelong learning system. Without such modification, it is difficult to see how the lifelong learner, generally a part-time student, would cope with the mixed responsibilities required of a typical PBL student.
COMMENT

The philosophical interpretation of Access to higher education is that no one who seeks to proceed to post-secondary learning should be deprived of the opportunity through shortcomings or barriers in the educational system, either in its facilities or its financial arrangements. What has been presented in this chapter suggests this is easier said than done.

The demand for university education is rising everywhere and we simply cannot keep pushing people into the existing system to the extent that service is reduced in order to accommodate them. Can innovative delivery methods solve the problem, either wholly or partially? More importantly, what will be the effect on the quality of instruction and the university experience of the adoption of innovative ideas and methods.

The demand for university-educated people is, so the argument goes, connected with the concerns of the labour market; but the specialized knowledge this market requires, although necessary, cannot be the predominant goal of post-secondary education. Technology and business-style systematizing are becoming the much-vaunted partners of education at all levels, but what is their real impact on the knowledge-seeking individual? What are likely to be the
consequences of educational decisions being made purely on the basis of minimum costs and maximum efficiency, or the introduction of systems and technologies that ostensibly enable more learning to occur in unit time? Does this not suggest that educationally desirable but non-measurable objectives might become casualties?

Even the high sophistication of the computer does not seem to have elevated educational technology to qualify for much more than the soubriquet of "electronic page turner" - Skinner's pejorative reference to the teaching machines of twenty or more years ago.

I am not opposed to technology's being wedded to education, but I am concerned with the terms and conditions of the union, as were some of the respondents to my questionnaire. The chapter has pointed to the influence of what are regarded as progressive and non-progressive methods in the context of teaching and learning. All technological endeavour is progressive, but, lest we become intoxicated by the wonders it has to offer in education, we would do well to keep in mind that our objective as educators is the improvement of the human condition. The enthusiasm presently shown for technology takes little account of possible undesirable "side effects" - even "backfires".

Technology must not be permitted to eclipse the task of the traditional institution of higher learning to encourage the reading of good books and the thinking of
original thoughts, in the absence of which society becomes culturally impoverished. Access to this kind of learning must be preserved, even though the perception of what constitutes an effective learning environment is changing. We cannot afford to yield entirely to technology the pleasure of reading a real book or the valuable intellectual experience of face-to-face on-campus debates.

The current interpretation of effectiveness in education is perhaps too closely associated with the human capital idea in which individuals are perceived as a factor of production; this can have a corrosive influence on the historic aim of education, which is to educate the whole person.

Where the main incentive in higher learning happens to be the speedy acquisition, or re-affirmation, of a professional credential, technology can have a significantly facilitative role to play. However, it should not be allowed to become a substitute for the presence of a teacher, mentor, facilitator - call him or her what you will!

It might well be that innovation in terms of a new cadre of teachers, trained up, psyched up, well-informed in their specialties, and acquainted with the principles of andragogy, would outwit, outteach, and outclass technology, and in so doing create truly educated people.

Technology has its place in education, but that place must be carefully identified and its boundaries circumscribed. As indicated earlier, it is possible to "talk
up" technology, and so capture the imagination that support for commitment to it follows, even on the basis of the most tenuous performance data.

Educators are obligated to pursue vigorously only those teaching and learning activities that ensure the validity of the students' educative experience, and this experience is impoverished in many ways if the classroom situation is significantly diminished - or even abandoned.

The teacher should be regarded as a "credible witness to learning." He or she is not only mentor but proctor, by and through whom the learner's eventual credential is ratified and validated. The credential itself is therefore a kind of affidavit. High speed surfing of the Internet, or overcrowded curriculums prevent teachers and the taught from going to the depths in the ocean of knowledge.

The chapter raises the following questions: How many of us will freely give ourselves over to lifelong learning for purposes other than holding or getting a job? How many seek, or have the ability, to engage in sustained intellectual effort? Not all people want to be educated. Education that is not pursued with eagerness and punctuated with success becomes a burden.
CHAPTER 6

The Validity of Distance Education

Sub-questions:

I. What are the reasons given by some educators for their non-acceptance of distance education and the new technology?

II. Can a true university education be attained through distance education?

III. What are the evidences that are claimed to attest to the validity of distance education at university level?
I. What are the reasons given by some educators for their non-acceptance of distance education and the new technology?

Philosophical and political aspects. Despite the impressive developments that have occurred in recent years, a significant measure of non-acceptance of distance education and the new technology is to be found.

The opponents of many of the new developments are not necessarily unsympathetic to, or prejudiced against, the trend to technologically-enhanced (systematized) education. They point to particular problematic aspects, which it is the purpose of this section briefly to explore. Predominant is the perception, held by some educators and members of the public, that distance education and the new technology are not entirely the instruments of enlightenment that we are led to believe. Notice what Rosen has to say:

Unless care is taken, the effect of the new technologies could be damaging... Advances in computer technology have been made by creative people but the use of the computer itself is far from creative. It tends to limit the use of language ... The use of several of the new technologies reduces students' familiarity with the printed word. Since the printed word is custodian of the thinking of our civilization in philosophy, in literature, and theology, we are in danger of losing our inheritance through ignorance (148:59).

Nelson and Seiber's research project in American public schools evaluated various innovations and concluded that:

In view of the amount of faddism in educational change and the doubtful value of many widely accepted innovations, the sheer [numbers] of adoptions might reflect only salesmanship and community pressures rather than enlightened educational reform (Parelius, 135:98).
It has been speculated that costly, but poorly evaluated, technologies are adopted because of their publicity and political utility, rather than their educational value. Educational institutions find themselves pressured by society to keep in step with the latest developments in technology and to discard what are pejoratively referred to as the "folk methods" of the past.

Toffler makes the following trenchant observation:

All of a sudden a new technology arrives on the scene. Then there is a big rush to get it out fast. That means there is very little time for society to make the subtle kind of adaptation necessary before it has committed itself to the use of the technology. Maybe the consequences are trivial. But who knows and who cares? Nobody. (Cheit, 32:60).

It follows that a measure of skepticism about technological innovation in education is understandable, perhaps even healthy.

As has been shown earlier in this investigation, there are educators and educational policy-makers who have considerable confidence in the ability of technology and systematized teaching methods to provide answers to many of the problems in contemporary education, specifically in continuing education. However, there are others who are not prepared to go this far. They do not see education as a rationalized, predetermined, scheduled process; they feel it should be regarded as an opportunity, on the student's part, for self-determination and critical thinking, brought about by interaction with other people (Ruggles, 149:76). It is
believed that without these elements, the educational process is impoverished. Parelius says that caution should be exercised with regard to innovation in education since it is a spurious assumption to equate innovation with improvement (135:9 et seq.). He argues that innovation in education can lower standards as well as raise them. He believes that the characteristics of teaching as a profession tend to inhibit innovation, and he asks "to what extent should [this] ... be seen as a problem?" (135:92). The strengthening of teacher training has been suggested as being more important than the infusion of large sums of public money into innovative projects in education.

The funding and support given to educational technology is clearly driven by a perceived need for education to keep pace with the demands of business and industry, and to be responsive to government policies to provide new or enhanced vocational and professional skills in the work force. This has developed a penchant for productivity in the educational enterprise. Moves in this direction are opposed on the grounds that it should be the mandate of university programs to provide a broad-based, liberal arts education, the inference being that distance education and teaching technology are antithetical to the realization of such a mandate.

Many traditional educational institutions take the view that distance education and the new technology are
complementary functions that are not of distinct benefit to the adult learner (Neil, 116:172). Neil says that there is evidence that adult continuing education, particularly that conducted by distance learning systems, is perceived as an inferior option and responsible for lowering existing high standards (ibid.). This is subject to much dispute, (see Sub-question II).

**Sociological aspects.** Ruggles believes that the key issue in technology and learning at a distance is the control of knowledge. From the program development point of view, once knowledge has been "translated" so that it can be used by a new technology, something has occurred to change that knowledge. The learners' perception may well be that the knowledge emanating from large publishing organizations or from a group of curriculum specialists represents definitive knowledge. Ruggles says that in a producer-consumer relationship, knowledge takes on the characteristics of a commodity that is defined, at least in part, by the limits of technology. As a result, students become passive receivers of knowledge since they have only limited opportunities to contribute to the development of criteria upon which the programs are based (149:75). Furthermore, the presentation of knowledge through telecommunications technology allows for only limited response, and not for the development of more complex ideas which are possible in face-to-face sessions (cf Chapter 5 and Sub-question II, Chapter 6).
Ruggles sees this as a particular problem in the context of degree programs conducted by distance teaching. He questions the ability of a distance teaching system to give the rich, total educational experience that is obtainable via a campus-based program, such as social interaction with colleagues, library browsing, and the opportunity of developing shared values. He also raises the spectre of brainwashing in his comment that the presentation by program developer groups of their perspective of a specialized knowledge, could lead to cultural dependency (ibid.).

I have previously spoken about the increasing of educational productivity for economic reasons; however, the sociological implications also need to be considered. Illich believes that we have to recognize that there are limits to industrial productivity - it cannot continue indefinitely. He observes that the search for economic growth has resulted in aggressive social systems, the rapid consumption of dwindling natural resources, the production of huge amounts of waste and pollution, and the possible exacerbation of already great international inequities in standards of living (Parelius, 135:99). This observation does not augur well for an educational system that is being exhorted to adopt a similar mind-set to that which Illich rightly decries.

Distance education and the new technology are considered by their opponents to be a form of "mechanized" education for the purpose of churning out more individuals able to drive
business and industry. They envision that this will cause an impoverishment of social and cultural learning. Escotet clearly shares this view in the emphasis he gives to the critical importance of social and cultural content which (he thinks) distance education fails to provide (Rumble, 150:234).

Putatively the universities are sanctuaries for freedom of thought and opinion, energized by social and cultural interaction. In these institutions the conscience of society finds its genesis.

Some academics are justifiably concerned that the severe departures from tradition that innovative change portends could put at risk the standards of excellence built up over the years.

Functional aspects. The recurring theme in the criticism of pre-prepared study material and the way in which it is conveyed to distance students, is that the material and the medium do not wholly serve the interests of the students. In the case of educational television broadcasts, the programs must be developed and produced such that they maximize the viewer audience in order to obtain revenue. Hence the entertainment, rather than the educational, component of the program has priority. Furthermore, and as noted by Ruggles, written materials, videotdiscs, or computer programs that are produced by large companies (since only they have the resources and expertise to meet the demand) will inevitably monopolize distance education (149:76).
In itself, this is not a significant problem; it is in the biases and value systems of the programs themselves where the problem lays, because program developers are in a position where they can, wittingly or unwittingly, be manipulative. It is possible, therefore, to propagandize learners (ibid.).

The heightened interactiveness of state-of-the-art telecommunications technology introduces concerns with regard to invasion of privacy (Ruggles, 149:77 and Burge, 20:51). The opinions, preferences, or points of view expressed by distance students could be retained by computer memory and later analyzed and cross-referenced, for whatever purpose, unbeknown to the students. Burge sees the audiotape recording of conversations between student and tutor as an example of potential privacy invasion. The critical point, as she observes, is the learner's perception of the vulnerability that can inhibit full, spontaneous, dialogue with a tutor (20:51).

Other problems that redound on distance education's validity are seen to exist where distance learners are required to attend face-to-face sessions at local learning centres for the purpose of tutorials, seminars, or test-writing. A number of virtually independent centres associated with the distance education operation of an educational institution can lead to intricate problems in test security or in student identification when students are being evaluated for grading purposes. Properly conducted proctoring
of examinations is essential if distance study students' qualifications are to enjoy parity of esteem with their campus-based counterparts. This problem is compounded where students are differentially paced, since each student must receive a unique test. This imposes a burden on the examining institution. Critics maintain that the physical supervision and proctoring procedures introduce the constraint that distance learning is intended to overcome - that of distance itself.

There are also substantial problems in setting up learning centres for distance programs that involve laboratory experiments, the use of computer terminals, or other experiences requiring specialized equipment. Sheath enumerates some of the disadvantages of learning centres when this type of course is required:

* Rental laboratories are not purpose-built; hence equipment and facilities are unlikely to be ideal. Extra apparatus may have to be purchased or borrowed.

* To maintain good relations with the host institution, all consumables should be either supplied or paid for.

* For some advanced courses there may be some experiments which are impossible to perform at a local centre because some complex or expensive piece of apparatus is needed.

* To set up a local centre, good liaison is needed before it gets off the ground, and a considerable amount of administrative time spent on the arrangements. Also, any hitches that occur as the course proceeds should be quickly attended to.

* A good local tutor with initiative can ease most
of the problems but it may be difficult to recruit such a person in each location.

* If the course involves expensive equipment, then to be economically viable a minimum number of participants is necessary. This is likely to rule out participation by students in sparsely populated remote locations (157:217)

The much touted advantage of the distance student's being able to self-pace his or her learning is seen as requiring intricate tracking arrangements because a program cannot be "open-ended"; course completion has to be clearly delineated. In order to give academic integrity to the distance student's learning, compromise has to be made between self-direction of learning and the amount of control the educational institution must necessarily exercise to give validity to the program.

Summation. The criticism levelled at various aspects of distance education and the new technology should not be lightly dismissed. However, much of it represents no more than the down-side that any and every system is bound to possess.

Although critics tend to make much of the lack of opportunity for socialization with colleagues in distance education, (it is often cited as a major impediment), many andragogues, particularly those in adult higher education consider the social aspect as appropriate for individuals in their initial education but superfluous in the lifelong learning situation. It is claimed that adult learners' life experience and intrinsic motivation more than make up for this deficiency.
Technology is focusing on creating a sense of "real presence" for student and tutor, and to an extent succeeds. However, it is the self-directed, independent learning mode that critics see as being seriously deprived. Learning in this mode is not regarded as having parity with on-campus classroom instruction. The classroom environment and the conventional teaching and teacher-student interaction places no limits on the use of language - written or spoken. This is a situation distance education is perceived as being unable satisfactorily to replicate.

Genuine concern is also expressed about the preparation and "pre-packaging" of course material by others, thereby leaving the door open for biases to be transmitted; even to the extent of manipulation and propagandizing.

In distance education modes where a tutor is involved, he or she should really be looked upon as an "agent" of a preconceived process - not at all as a facilitator of an emergent curriculum.

Critics of distance education see it to be an inhibitor of, and in some cases a barrier to, the spontaneity and critical thinking that are considered the essence of true university education.

Problems in the provision of laboratory experiences, fieldwork, internships, and so on can become administrative boondoggles in distance education, and the concept of the learning centre, although to some extent a solution, really
amounts to a shift back to the centralization of the traditional form of campus-based education. While the traditional system has its limitations in the context of lifelong learning, critics suggest that perhaps more careful attention should be given to its reconfiguration.

II. Can a true university education be attained through distance education?

Some traditional perceptions of the purpose and praxis of university education. The perception of the purpose of the university in the mid-nineteenth century was that it should be an institution for the cultivation of the mind and refinement of public taste. It was seen as a cultural agent as well as being a "storehouse" of knowledge.

Writing about the purpose of the university in 1850, Newman articulated a view that the university experience allows would-be scholars to come together and freely mix with, and thereby learn from, each other, thus "gaining for themselves new ideas and views as well as fresh matter for thought, and distinct principles for judging and acting day by day" (117:130).

Both Newman (ibid.) and Whitehead (195:99) share similar views on the crucial role of university teaching. Whitehead particularly emphasizes the importance of having excellent teachers whose originality and influence can be properly expressed only through direct contact with their students via lectures and personal discussion.
Traditionally, university education has not been regarded as an "article of commerce," the argument being that the general culture of the mind is the best aid to professional and scientific study. This harmonizes with Newman's belief that a university education "prepares a person to fill any post with credit and .... master any subject with facility" (Whitehead, 195:155).

In spite of technological advance and the changes in lifestyles and values evident in modern society, many of the early philosophies extolling the virtues of a liberal education hold their ground and continue to receive strong support among some members of academia. The Canadian Association of University Teachers' Policy Statement on University Governance, 1994, for example, states that scholarship and creative work, such as fine arts and in the humanities, contributes to the cultural well-being of Canada (29:1). Charles Sykes, declaiming against the "deconstructionism" of the liberal arts curricula in some U.S. universities, gives emphatic support to the university environment in which the great books may be studied and thereby "help students to recognize and challenge the sterile clichés of their generation" (169:17).

These perceptions of the purpose of the university, laudable and valid as they are, depict the institution as a kind of "intellectual monastery." In reality, the purpose of the university is a complex one which nevertheless can be
summed up as follows: It is an institution for the preservation, generation, and dissemination of knowledge, and it is by and through these functions that those who attend a university may become original thinkers, social change agents, or skilled practitioners in the professions.

According to Geis, the threads of the monastic environment are intertwined in all that the university does (64:10). This maintains a kind of "academic fundamentalism" which many see as the essential caste of a true university education.

The changing role of the university. The traditional concept of what constitutes an effective and desirable learning environment is changing, and while, as Saylor believes, traditional institutions that lean towards Newman's perception of higher learning will continue to play a role, the structures and function of these institutions will be changed (152:395).

Today's imperatives leave no alternative but to suffer the loss of many of the desirable aspects of university life that Newman spoke about. Society is on a trajectory of change, as Alvin Toffler suggests, and those who insist on an extended liberal education as the sine qua non of the professional life have to modify their position.

There is a new vision that links the objectives of universities with the needs of business and industry. Advocates of this viewpoint see it to be more in line with the
evolution of a high technology society. Justification for such linkage between universities and the corporate sector is found in the growing demand for highly trained personnel to staff an intensely sophisticated technological employment environment, and, that the level of training sought be attained through the university system. This line of thought was triggered by the emergence of the Human Capital Theory, the political response to which was made evident in Canada during the 1950-1970's when public funds were committed to the building of new universities or the expansion of old ones. Universities were then, and continue to be, looked to to provide the innovative impetus needed to strengthen and increase the nation's economic status.

Furthermore, the corporate sector is also looking to universities to participate in research that has marketable potential. However, this leads to the inevitable consequence of reducing the universities' commitment to pure research, a situation which in the long term can disserve both the economy and scholarship.

However, change has its hazards and they must be either avoided or overcome. Whitehead observed that "education which is not relevant to modern thought shares the fate of all organic things which are kept too long" (195:80), which he puts in a more philosophic style as follows:

For education to be living and effective it must be directed to informing [students] with those clear ideas, and to creating for them those capacities which will enable them to appreciate the current thought of their epoch (ibid.).
There appears to be no obvious reason why people should not learn to form judgment, refine their taste, or "excel in social intercourse" (as Newman says) in the context of a university education structured to fit one for the professions or other utilitarian occupations. Curricula do not have to be devoid of things that stimulate and encourage cultivation of the intellect or nurture the values of a civilized society. Like it or not, the university has, in a sense, become a major part of a broad "manpower" plan. It is, as Geis and Skolnik observe, "a multi-purpose institution. The task is to reconcile the different factions" (64).

Distance teaching, non-campus universities and colleges are coming on to the educational scene. Through these institutions, students are earning degrees who have never set foot inside a traditional university.

While beliefs still exist that the university campus experience, with its mutually educative encounters with fellow students, and face-to-face discussions with tutors, is a constituent component of higher education, degrees obtained without these ingredients are now valued and valid currency in modern society.

Distance education and the university. The question "Can a true university education be obtained through distance education?" is often asked. In view of what has been said in the previous segments of this section, one might equally ask if a true university education can be obtained at a
university! The changing missions and goals of the universities make such a question virtually unanswerable in any definitive way. There are two entrenched points of view that give rise to questions of this sort: 1) There is a widely held view that traditional methods are superior, and 2) The tutorial - perceived as the epitome of a "true" university education - cannot be replicated through the media or printed material.

It is the latter view particularly that generates the feeling that learning at a distance is not compatible, and lacks parity, with traditional university education.

The belief of distance educators that through technology and current media techniques, the lecture/tutorial situation can be replicated at a distance, was stated earlier in this investigation. This is clearly a repudiation of the traditional gospel that the linchpin of a true university education is the face-to-face, in-person dialogue between teachers and students. It is also the critical issue upon which the opposing factions take their stand.

Sewart, in defending university-level distance education, emphasizes that the root of the word dialogue refers to "fuller consideration" as well as to simple communication between two or more individuals, and that this "fuller consideration" can well take place in the less immediate situation of [distance] tuition. Such a dialogue allows for private reasoning before a response is made, and by posing
less threat for a wrong response and giving more time for positive self-reinforcement, allows the student to give a fuller considered final response (International Council for Distance Education, 90:34).

With regard to the commonly accepted axiom that the goal of a "true university education" is the development of learners' capacity to think for themselves, Hanson believes that with distance education we may have reached a point of compatibility (ibid.). Certainly, the viability of distance learning depends to a very large extent upon learners' ability to think for themselves, to self-teach, and to substantially self-manage their education. This is the essence of the philosophical shift which moves education from the process of disseminating knowledge to the process of learning through independent studentship and the reduction of the educational institution's intervention in that studentship.

Lefranc has commented on the diversity and complexity associated with different delivery systems in distance education, some of which may include learning episodes that are wholly or partly traditional, interposed with others that are highly innovative (Feasley, 59:47). It follows that a quantitative and qualitative determination of the extent to which distance learning replicates "conventional" university education, is a complex problem. A better perspective might be that obtained by inquiring into the extent to which
distance education embraces the parameters of a bona fide education in the context of contemporary curriculum content.

According to its advocates, distance education does do this, and they can also present persuasive statistical and anecdotal evidence of the method's validity by referring to face-to-face sessions, counseling, individualized learning materials and methods, tutorials (by telecommunications), time-tested evaluation systems, and so on. However, these are elements also to be found in the evolving conventional university system. Thus, as time passes, distinctions become blurred since credentials obtained via distance education sourced by established universities are not differentiated academically. The university's degree is the university's degree!!

Traditional universities are not averse to granting transfer credit on the basis of studies completed via recognized distance teaching institutions, such as Athabasca, the Open University, and others.

The distance learning constituency is mostly comprised of employed, mature, life-experienced individuals. The learning constituency served by the traditional university system has few such students. Conceivably, in a "final accounting," the intellectual inventories of demonstrable competencies of each group should be at least at par, with a likely edge being given to age-mature learners.

There is a further and quite significant point to be
raised concerning the reluctance that exists in assigning
parity to distance education and the so-called traditional
university experience, and it has nothing to do with the
educational dimensions of the institutions. It stems from the
sense of "invisibleness" of the distance teaching institution
when it takes the form of a non-campus college or Distance
Teaching University (DTU). This creates a psychological
problem in that there is no physical image in the minds of the
administrators, teachers, or students. With the traditional
institution, the physical campus represents a strong symbol
and an identification, giving students and staff something
tangible with which to relate. Symbolism is clearly connected
with prestige and acceptance. It is a superficial but none
the less influential trapping to which society cloys - and of
which tradition is formed.

Summation. The foregoing has shown that education is not
static, nor can it be. It is reflective of the society it
serves, and evolves with it. Technological advance and
material progress are, in and of themselves, changes that few
seek to resist, yet change brings with it the danger of
neglecting, even discarding, the philosophic bases that
brought it about. In our attempts to analyze what a "true
university education" really amounts to, a philosophical,
rather than a utilitarian, position needs to be taken.
Newman's definition of education, that "it is an instrument
for the cultivation of the mind and refinement of public
taste," is intended to establish in the recipient a perennial value system by which he or she can survive the vicissitudes of living, and enable the individual to use wise judgment in solving personal and societal problems. This view ought to be embodied in the mission statements of our universities.

However, the hard facts of the case are that universities today must respond to the specific and pressing needs of a fast-changing, technology-driven society. These various needs have been enumerated earlier. It is not possible to categorize modern universities as "traditional" in the historical sense. All educational institutions occupy a space on a continuum of change. The distance teaching university, and distance teaching activity as an arm of the campus university, have a reciprocal, next-of-kin relationship. Rumble says that distance teaching universities (DTU's) are generally recognized to be genuine universities of equal status to conventional ones, and he cites the reciprocal arrangements that exist for credit transfer as evidence of this (150:246). Academic parity is clearly implied.

The distinction between distance teaching and wholly campus-based education is becoming less clear as the concept of lifelong learning develops. It follows that university-level distance education is, or can be, as "true" as that given by a modern university. However, neither institution would completely satisfy the criteria of a "true" education were Newman's perception to be the sole index of reference.
III. What are the evidences that are claimed to attest to the validity of distance education at university level?

On validity. The concept of validity has meaning only relative to the purpose for which we need evaluative information. The question: "Valid for what purpose?" has to be asked. However, knowing the purpose is often more complicated than it may at first appear. For example, in education, we do not know for sure what constitutes all the criteria for success in educational tasks or methods. Academic activities in general are characteristically surrounded by a certain amount of ambiguity and uncertainty. The evaluative information required for the judgment - the validation - of a complete educational system, such as distance education, calls for data from many directions. Holmberg sees this to include: an appraisal of that system's status in society, the relevance, quality, quantity, and results of teaching, and overall impact on education as well as the labour market (81:170). This is a daunting task and illustrates the complexity of the problem. Neil looks at it more reductively: he believes that the validity of distance education, and other non-traditional methods and media, is a matter of comparative effectiveness, the primary concern being the appropriateness of a medium for achieving the objectives of the course conveyed by that medium, and the actual achievement of these objectives (116:101).

It is the responsibility of the educational system, as provider, to ensure the quality and instructional strength of
the course materials and educative experiences, and to take into consideration the cultural and situational context, as well as ease of student access to various media and resources (Ruggles, 149:13).

The learner, as the client, plays a role, directly and indirectly, in the setting of objectives, and ultimately registering his or her opinion concerning the extent to which they were achieved.

While the foregoing speaks to validity in a general way, the question to which we have to respond specifically refers to the validity of university-level distance education. Thus, to give full consideration to the evidences that follow, a benchmark is needed. The Ontario Council on University Affairs, in 1979, published a frame of reference for Ontario's universities. They are expected to
* develop a more educated populace
* educate and train for the professions
* provide study at the highest intellectual level
* conduct basic and applied research, including development and evaluation to provide service to the community (119:11-13).

Debatable evidence. That distance education is, in fact, a valid educational system might be argued on the premise that it qualifies to be regarded as an academic discipline in its own right. Holmberg asserts that distance education should be described as a special education discipline. He notes that the criteria for a university discipline are usually that
there is a body of research encompassing it and that it is taught as a university subject (81:205). On this basis, his view can be justified, since there is a substantial body of published research on distance education (see Chapter 7 and the Bibliography of this investigation). Sparkes comments that an academic discipline is an area of academic interest, and one that poses sufficient problems to stimulate research that leads to the publication of journals in the subject areas (Holmberg, 81:179). This also supports Holmberg's contention, since Distance Education research is being increasingly published via international journals, scholarly papers, and in full-length texts by authors such as Holmberg (1989), Rumble (1982), Ruggles (1982), Sweet (1989), and others.

With regard to distance education as a university subject with its own curriculum, there are some universities offering courses and seminars on distance education, notably Concordia University in Montréal, the University of Wisconsin, and Fernuniversitat in Germany.

Thus, on this basis, distance education might reasonably claim the status of being an academic discipline.

Speaking specifically about distance teaching universities, Rumble believes that these institutions have established a reputation for validity. He credits this to the quality of their learning materials, student support services, relevancy of programs, and effective evaluation of student performance (150:216). However, he does not cite quantitative
data to support his contention. He justifies his view by saying that significant evidence of the validity and effectiveness of distance education and the new technology is to be found in the fact that most Canadian universities are participants in non-traditional modes of education, particularly distance education (ibid.). This is a debatable interpretation.

Burge maintains that it is the economic realities which face educational institutions in Canada that have encouraged the development of distance education as a means of increasing enrollments and thereby the institutions' funding. Burge believes that this has, to some extent, brought about a reconciliation of those who heretofore opposed non-traditional educational methods to the benefits of larger enrollments that such methods generate (20:51), an opinion that the literature generally seems to support. Purely on the basis of cost considerations, there is a measure of agreement among educators that distance education and other non-traditional methods, coupled with the new technology, can offer significant advantage over the traditional system.

The Ontario Ministry of Education and Training's July 1996 Discussion Paper entitled "Future Goals for Ontario Colleges and Universities" advocates that all institutions within the post-secondary education system have technologically advanced delivery systems, in order to achieve economies of scale (129:9). The paper also extols the virtues
of alternatives to traditional forms of post-secondary education in that they provide individuals with access to a wide range of sources of information, and can eliminate constraints of time and geography (ibid.).

A climate of acceptance of distance education methodology and the new technology is clearly developing; the reasons are evidently a mix of philosophy and economic realities. It is the mandate of well-established agencies like CAUCE, CADE, ICDE, and ICIHE to encourage, and even broker, collaboration between distance teaching universities, traditional universities, and other post-secondary level providers of continuing education.

**Less debatable evidence.** Distance teaching universities recognize and observe certain emerging protocols in the development and implementation of their educational activity. This is cogently discussed by Holmberg, who sees the starting point for the creation of valid distance education to be the course, where "course" denotes not only the actual study materials but also the whole process of interaction between students, tutors, and the supporting organization, the purpose being a summative evaluation leading to a determination of the course's validity. Student input is sought, both before and after formal and final adoption of the course by the institution for the purpose of finding out how well students' own goals and interests are met. Also, the course is submitted to subject specialists - usually external,
recognized authorities - for assessment and critiquing. In many instances, the opinion of employers is sought (81:171-175).

With regard to the recognition by employers of the credentials awarded by distance education institutions - which Rumble says is considered by many to be the ultimate arbiter of an institution's effectiveness - Britain's Open University's research on the status of its degree tended to support this contention. A sample group of employers regarded the Open University's degree as equivalent to one from traditional universities; a few found it was better, and approximately 20% thought it not as good (150:237).

Distance teaching institutions that use external examiners palpably increase acceptance of their academic standards. An institution's educational activity as a whole is well validated if it can present a good record of students' success in externally evaluated examinations. According to Rumble, this is the case with the Open University (ibid., pp.218-219).

From the political point of view, the British educational Establishment went through an "about face" with the concept of an open distance teaching university, as the literature shows, from derision, when the idea was first mooted, to later full acceptance of non-traditional teaching and learning as exemplified by the OU. It is reasonable to conclude that this volte face could not have occurred had there been significant
sustainable evidence of the inferiority of the concept when compared with conventional university teaching. This may have as much to do with politics as it does with education!

The large enrollments that distance teaching universities report, particularly Britain's Open University, could be construed as the result of those institutions having a "marketable product" that is satisfying a demand. Whether it is legitimate to interpret this as a metaphor for the validity of distance education, the reader is left to decide.

With regard to research work in distance education, there are a number of scholarly papers that testify to the effectiveness of the method. Holmberg relates this to those studies that have investigated distance education (without face-to-face episodes) in the cognitive domain generally, and to some extent in the psychomotor domain for certain skills. He also notes that distance education has been confirmed as being highly effective in the affective domain. Comparisons in the cognitive domain made between distance taught courses and those conventionally taught have not shown the former to be less effective (81:189). These findings were, in some measure, reinforced by Dubbin and Taveggia's analysis of more than 350 separate studies of American college teaching including independent study, [which] showed no difference in the learning outcomes of different teaching methods (ibid.).

Looking ahead. The literature reveals that there is certainly an increasing acceptance and utilization of non-
traditional methods of education and the new technology throughout academia, the continued existence of some redoubts of vigorous opposition notwithstanding. Ruggles predicts the convergence of distance learning and campus-based activities because the modular approach that characterizes distance education can also be advantageously employed in campus institutions. In some institutions this is already occurring (149:117).

The sovereign independence in the conduct of their academic affairs that has long characterized institutions of higher education is being diminished through force of circumstances, not the least of which being the need to cut operating costs. Burge sees that high costs are leading to cooperation between institutions for the purpose of resource sharing, and that the degree to which inter-institution competition is supplanted by collaboration, will increase the attention to, and the effectiveness of, non-traditional education (20:51).

In 1984, the Council of Ontario Universities established a Committee on Distance Education for the express purpose of encouraging resource and information sharing between universities. Specific goals were the control of costs of distance education programs through collaborative action. From this sort of initiative, we should expect that in due time there would be obvious evidence of a large-scale information exchange about institutional activity in distance
education; co-ordination of program planning; the initiation of inter-institutional credit transfer policy; as well as the development of mechanisms for co-operation between universities and other organizations (including the corporate sector) for the purpose of creating course materials and delivery systems. However, the facts are that there is very little evidence that these goals have been achieved. Indeed, the Committee's objectives, set more than ten years ago, are still those of the authors of contemporary scholarly inquiry in distance teaching policy and practice.

However, Burge is optimistic about collaborative action because she believes that distance education technology [of itself] encourages the creation of linkages between different agencies, and her optimism finds some justification in the influence that the associations, mentioned on page 278, are beginning to exert (20:54).

**Summation.** Even the best evidences presented in support of the validity of distance education do not carry the weight of statistical verification that would make them incontrovertible. The difficulty is reasonably apparent: distance education is essentially an isolated activity from the student's point of view. Compared with the conventional education environment, distance education is difficult to evaluate externally in terms of student satisfaction, educational gains, and students' goal achievement.

While there seems to be a need to probe for more
substantive data, particularly from the learners' and the employers' point of view, those which are available do attest to both student and employer satisfaction. But how rigorous is it possible to be in any analytical endeavour that attempts to evaluate the activity of individuals acting, interacting, and reacting in their various environments? The environmental and other variables associated with distance education and, indeed, with conventional education, make them both unsuited to the investigatory processes of exact scholarship. There is no detailed set of rules that govern every learning situation, be it the traditional or non-traditional mode. Perhaps the most practical benchmark should be the effectiveness or otherwise of distance education. Hence distance education is valid if it is successful and effective if such is taken to mean that students' goals are, in the main, achieved. The evidences looked at in this section do not point to student dissatisfaction; on the contrary. Taking Britain's Open University as an example: students enroll in large numbers, in that institution, and according to Rumble, significant numbers do complete their programs. Therefore this, perhaps, should be viewed as a reasonable indicator that students' individual needs and goals are being met. Whether this situation, in and of itself, is sufficient to allow a generalized conclusion that distance education is a valid system, remains a persuasive, but nonetheless moot, point.

Mainstream universities are collaborating to an
increasing extent with DTU's, and are themselves using
distance teaching methods; in some cases at master's degree
level. This trend can also be regarded as an endorsement of
distance education. However, this may have more to do with
economic expediency and political influences than being a
recognition of the validity of distance education in the
educational purist's definition of the term.

Holmberg provides a perceptive annex to the whole
question:

Distance education offers possibilities for
effectiveness but whether they are exploited (like
those of conventional education) depends upon the
educators, students, and the milieus concerned. It
would seem to be futile to try to establish either
the superiority or the inferiority of distance
education (81:189).
This chapter has shown that the validity of an educational process is subject to redefinition according to the evolving exigencies of society. This is not to say that the conventions, customs, rituals, and teachings of the past become invalid; on the contrary, they comprise the substrate of modern thought in which are to be found the eternal verities that have created the bases of our judgment in society and the sciences.

To propagate these truths, the educational system, whether it be by distance learning or by conventional means, needs to ensure that students are engaged in vocalized activity that is not merely talking about a pre-prepared curriculum, but is a sharing of opinions and perceptions with respected others as well as peers. This is the crux of the "give and take" presented in this chapter.

Newman's view of the purpose of education being the "cultivation of the mind and refinement of public taste" should appear in the mission statement of our universities, thereby drawing attention to education's combative role in opposing the shallowness and banality pervasive in contemporary society!

The debates about whether one system of education is superior or inferior to another tend to get nowhere.
Conservative elements in academe incline toward Newman's view. However, we cannot shut out the fact that society is changing; the task of educators thus becomes one of achieving reconciliation and striking a balance between pragmatism and idealism. To do this requires constructive criticism. The chapter has shown that distance education is forcefully criticized on the grounds that it presents little, if any, opportunity for face-to-face tutorial encounters between the student and his or her tutors. Distance education is also admonished for trying to convince those who lament this shortcoming, that it can be (as they might say) counterfeited by means of a computer terminal. I share the concern of educators and others who ask about the impact of the computer on the self-image of the individual and on human dignity - a Skinnerian question. Furthermore, what irreversible forces is the current absorption with the computer bringing into play? Questions of this sort caution us not to overlook possible subtle negative influences that can be generated.

Distance education and the sophisticated technology associated with many of its modes, is equated with a desire to increase "productivity" and cost-cutting. But care is necessary to ensure that the cost is not in education itself. Technology must not be allowed to solidify an hegemony in education.

The classroom and its special environment should be carefully preserved. Without the proximities that on-campus
(or its equivalent) allows, how can the desirable features favourable to the psychology of adult education be properly realized, such as students having a real "say" in the devising and evaluation of their programs? What has been portrayed in this chapter reveals the inherent difficulties associated with making distance education an andragogically student-centred system.

The form of distance education that offers the student undiluted isolation is a limited and limiting educational experience; face-to-face episodes with tutors or peers are either not possible or are minimally provided for.

A compelling case can be made for regular face-to-face sessions when we consider the psychological aspects of an educative experience. Students are not simply engaged in a process of absorbing curriculum content; they are undergoing changes in terms of their view of themselves. In consequence, there is a need for the physical presence of an educator with a cultivated sensitivity to perceive, and to guide, students' metamorphoses, as well as to take note of each individual's idiosyncracies. This is the essence of an authentic educational milieu in and by which "teaching moments" are identified. In such an environment significant life changes occur, particularly with regard to personal relationships and the re-forming of life goals. The rudimentary forms of distance education - such as the pure correspondence mode - do not provide this sort of environment. In order to claim any
measure of validity, compensatory steps have to be taken such as ensuring that distance learners become involved in frequent and regular educative activities over and above reading, viewing or listening to cassettes. Such may be embodied in a distance teaching mode that is a well orchestrated mix of face-to-face sessions and private study. But does not such an arrangement make distance education a de facto traditional learning experience?!

Britain's Open University organized itself in this way, and in consequence has generated the perception of being a bona fide, and therefore valid, educational institution of higher learning.

Distance education has become part of the architecture of the lifelong learning movement primarily because of the access it offers to employed individuals and also the economies of scale inherent in the system. Distance education has possibilities for student autonomy - a subject addressed in an earlier chapter.

Whether or not the objectives distance education achieves are wholly, even partially, those that satisfy the various definitions of validity or satisfy the many interpretations of what constitutes a "true education," time will tell.

Distance education and lifelong learning have a conjugate relationship, and inasmuch as distance education furthers the expansion of the lifelong learning movement, it can lay claim to having validity.
As Holmberg has said: "One cannot describe distance education as intrinsically good or bad, effective or ineffective, because of the different [modes] of distance education that exist" (81:204).
Sub-question:

I. What is the scope of research activity in distance education?
I. What is the scope of Research activity in Distance Education?

Introduction. Research activity in distance education has developed within the context of recommendations made by the Canadian Commission for UNESCO. The Commission's report called for the assurance of a scientific basis for lifelong education and learning, as well as for the facilitation of the integration of continuing education into the activity of work itself. The Commission recommended the encouragement of co-operative research in all aspects of adult education. It also recommended that measures be taken to disseminate the results of research programs to all of those concerned, at the national and international levels (UNESCO, 189).

Since the publishing of the Commission's report in 1976, distance education has increased in scope and vitality, and has come to be perceived as an academic pursuit in its own right, rather than simply an offshoot of the discipline of Education. A prima facie case has been made by Holmberg and others (see Chapter 6) for regarding distance education as a research discipline based on the increasing volume of research and scholarship in the field.

Most distance teaching universities engage in extensive research projects not only for the purpose of optimization and discovery associated with distance teaching methodologies, but also to enhance the credibility and status of the institution as a bona fide university.

While long-established correspondence schools have
accumulated a body of empirical data, it is confined to the distinctive characteristics of the purely correspondence mode. Distance education is a diversified, multi-form field of educational activity in which new technologies and methods play a pivotal role. While this means that distance teaching universities have more to examine analytically than do traditional correspondence institutions, there are perennial concerns common to both, such as: problems associated with attrition, evaluation, tutoring and counseling, as well as optimizing the ways in which information is disseminated.

The respondents to my questionnaire substantially corroborated this view and concurred that constitutive research areas in distance education should include in-depth investigation of the following:

- Course completion problems.
- Computer-assisted learning.
- Tutoring.
- Face-to-face sessions.
- Evaluation of learning.

The following discussion illustrates the form and scope of some of the research that has been done in these areas.

**Examples of Constitutive Research in Distance Education.**

**Student completion and attrition in distance learning courses.** There is debate concerning the magnitude of this problem. Coldeway sees it as significant (Daniel, 49:33), but Rekkedal considers it to be no greater in distance education
than it is in other forms of part-time education (Daniel, 49:118). Nevertheless, there is a consensus that the issue requires clarification through systematic investigation.

A study by Phillips and Young found that course completions were increased by 16% over instructor-scored correspondence courses when using a computerized system for scoring and commenting on assignments and examinations. The system pegged assignment and test turnaround time to two days. Students registered their appreciation of the rapid response as well as the written commentary on their work (ibid., p.298).

Shale believes that estimates of course completion are influenced by differences in administrative policies. He sees the crux of the matter to be the keeping to a minimum the number of students who, for various reasons, after having started a course are unable to continue (ibid., p.113). How this sort of control is to be exercised he does not say.

An extensive examination of the completion/attrition issue has been undertaken by Coldeway. He shows that there are two formulations by which completion/attrition can be measured. First, by simply dividing course completions by total enrollments and expressing the quotient as a percentage. Second, by dividing the course completions by the total enrollments minus the non-starts, and expressing the quotient as a percentage. The latter is the National University Extension Association formula (NUEA).
Coldeway's investigation revealed that there was a significant number of enrollees in the non-start category. He observed that, although the NUEA formula generally improves the appearance of the completion, there are problems in defining what a "non-starter" really is. A further difficulty in the determination of the completion rate arises from the length of time a student is given from the start of the course until the completion rates are calculated. This becomes a particular problem when no deadlines for course completion are set. The study found that students who complete courses usually take longer than the time specified by the institution for course completion.

Coldeway suggests that the measurement of completion/attrition can be looked at as a statistical "snapshot" of the situation at a point in time, since rates can change from day to day as learners suspend studies for a period, eventually to resume them and go on to completion. This complicated the calculation of completion/attrition.

A similar difficulty arises at institutions employing a continuous enrollment policy, where learners enroll any day of the year and the requirements for course completion are entirely flexible. Such a situation requires that measurement is made only after a very long time interval, so that the cohort group has had ample opportunity to complete, or withdraw from, the course. But the time lapse introduces the further problem that it will most likely include some revision
to the course through update. This means that a completion measurement would have lost in relevance.

To overcome these difficulties, an "on track" measurement function has to be introduced whereby learners are considered to be "on track" if they complete work according to a prescribed schedule. This system allows an acceptable prediction of completion to be made.

Coldeway explains that the total predicted completion rate takes into consideration both the number of learners completed and the number of learners who are "on track," and he gives as an example a course having, say, 100 enrollees. If ten learners had completed and thirty learners were "on track" at the time of making the measurement, then the predicted completion rate for that course is \((10 + 30)\) i.e. 40%. A pilot study of this predictive method yielded a reliability coefficient of 89.7%.

The study acknowledges that such "calculation" fails to address the deeper implications of drop-out and emphasizes that, in the measurement of completion/attrition, every attempt should be made to understand the motives of learners who

* complete courses
* withdraw from courses
* continue studying but do not complete courses
* continue in courses for long periods and eventually complete.

There is a perception that attrition reflects lack of
service on the part of the institution, yet it has been found that tutors in direct contact with students have been shown not to be effective in reducing attrition rate in courses, even when paid directly to be so (Daniel, 49:29-35).

While one cannot dispute that a student's completion of a course or program is a dependable indicator of a successful educational experience, many continuing education students engage in learning activities for purposes other than obtaining a credential or academic credit. These individuals do not complete assignments or write the course test(s), having (as they see it) achieved their objective(s) purely through participating in the course. Clearly, this type of student creates a dilemma for those endeavouring to compile meaningful completion/attrition statistics. The literature gives no indication of the numbers of students who would fall into this group.

As noted previously in this investigation, adult students accept and respond to study programs that are open and flexible. Here is further confirmation of some students' desire to "taste-test" the learning experience before fully committing to it. This is something to be viewed in a positive light and should not be discouraged. It is unreasonable to include such students in the attrition statistics. They should be regarded as individuals actively involved in autonomously pursuing their own goals in the most personally satisfying way.
Computer-assisted learning. This segment will focus on an experimental distance education system that showed the positive effect of the computer on course completion.

The experimental system was developed at Hermods in Sweden, in collaboration with the Norwegian Correspondence School, and reported by Baath. In the system, the correspondence tutors' role is largely taken over by the computer in that the system analyzes students' answers to multiple-choice questions, and personalized reports and motivational letters printed out by the computer are sent to students (Daniel, 49:303).

In the experiment, two different versions of the same correspondence course were compared with regard to the number of outcome variables (i.e. start, completion, attitudes to various aspects of the course, and study time: time elapsed from enrollment to completion). One version of the course had traditional correspondence tuition by a tutor; the other version used the computerized system. Those using the computerized system performed as follows:

* started submitting assignments to a greater extent than with traditional correspondence

* completed their courses to a greater extent than those receiving the traditional correspondence course

* adopted more favourable attitudes to the correction of and commenting on their submitted assignments

* completed their courses within a shorter time.

With regard to the functions of computer-assisted two-way
communication as compared with traditional tuition via the mail, it was assumed that the feedback function could be better served by a computer-assisted system. Supporting this assumption is, of course, the computer's capacity to store and utilize student data. Furthermore, the computer makes it possible consistently to provide extensive, well-planned typescripted comments (ibid., p. 305).

Concerning motivation, Baath considers that multiple-choice questions can be at least as stimulating as assignment questions of other kinds, judging from students' reactions. Computer-mediated tutor comments also have the advantage over the comments made by tutors in the traditional system in that they can always be made in a friendly, patient, encouraging spirit. The computer does not get tired or irritated! However, the computer does not possess the potential of a human tutor to improvise, to adapt to unexpected situations or to give something new or spontaneous in a personal dialogue.

However, the Hermods experiment showed that the faster turnaround time of assignments was a positive feature of the system, as also was the accelerated completion of studies.

Nevertheless, Beard and Hartley, talking about experimental findings in computer-based learning, caution that the favourable indications may not be generalizeable, and that definite conclusions should await the results of a larger number of studies. But Jamison et al, after reviewing several studies comparing computer-assisted with traditional learning
methods, concluded that the computerized method was as effective as traditional instruction, and confirmed that satisfactory completion of studies was accelerated by computerization (Beard, 10:226).

Other researchers, while sharing Jamison's conclusions, attribute some of the favourable results to students' being motivated by novelty. This can "wear off" after a time, yet the computer has shown its ability to capture interest and to stimulate motivation.

**Tutoring in Distance Education.** Many distance teaching programs include a tutorial function. This can take the form of face-to-face sessions, group tutorials, or one-on-one telephone or computer contact. The qualifications of individuals performing the tutoring function can vary considerably. Some tutors possess specialist qualifications in the course content they are tutoring. (This is the case at Britain's Open University). Some tutors are generalists who handle a number of different courses and subject areas. Tutors can work on a full- or a part-time basis.

Regarding the skills required for tutoring in distance education, Williams has investigated this topic comprehensively. She sees tutoring to comprise three areas: Content expertise, teaching skills, and interpersonal skills. She believes that it is upon the interpersonal skills of the tutor that the establishment of a good learning relationship rests. The main functions of the tutor are to
motivate and encourage students, and the specific function of the tutor's interpersonal skills is to personalize the instruction (196).

Regardless of the sophistication of the instructional materials, they will not be suited to everyone. Obviously, instructional designers cannot anticipate the background experience of every person who enrolls in a course. Williams sees this to be where the human factor comes into the picture. However, the human factor is complicated by the level of communication skills possessed by the course designer(s), tutors, and students.

She maintains that there is a positive and significant relationship between teachers' level of interpersonal functioning and students' gains on achievement test scores, student attendance and enhanced student self-concept.

Williams believes that an institution offering open educational opportunities is obligated to provide students with a support system by which they can derive maximum benefit from these opportunities. The tutor is seen to be the "guide" preparing the student for the self-directed learning in which he or she will be involved. To be an effective tutor, training is required. In her investigation, Williams found that 43% of the tutors sought and needed training. She developed a training project which she found to be effective in changing tutor behaviour in that:

* the ratio of tutor-talk to student-talk decreased with the distance students taking a more active role in the telephone conversations
*the tutoring became less directive, giving students increased opportunity to be more self-directed.*

However, tutors are not the only component in student support and motivation. The differing attitudes, abilities, and general characteristics of adult part-time learners, especially in an open admissions institution, suggest that motivational strategies may be more effective when they are used selectively.

Williams' project concentrated only on the interpersonal skills dimension of tutoring; other aspects of tutoring skills were not investigated.

Williams' conclusion is that the uniqueness of the adult learner and the learning situation requires that serious attention be given to the training of both tutors and teachers (196).

Another aspect of tutoring. Peer tutoring has been explored by Coldeway, whose report I will draw upon extensively in this discussion. The premise is that learners who successfully complete their courses are in a good position to understand what it takes to be a successful distance student; they understand the problems that their fellow-students might encounter. It is reasoned that peer tutors do not need to spend time re-studying the course material in order to rekindle their knowledge of it. Also, there is an economic upside in that peer tutors can be compensated by the institution by either offering course credits or a small
retainer. Many peer tutors have reported that they learned more when tutoring a course than they did during their own studentship (34:4).

In his research project, Coldeway found that the performance of peer tutors was not significantly different from the typical performance levels of the faculty tutors. The peer tutor was able to perform all the required academic, administrative, and interpersonal dimensions of tutoring on a regular basis throughout the period of the investigation.

The problems reported by peer tutors were, typically, getting in touch with students, and dealing with individual students who had special problems.

With regard to the perceptions of the peer tutor, the research data showed that they felt good about serving as a tutor and appeared to enjoy the experience. However, they worried about their own ability and how the students perceived the support they (the tutors) provided. Of particular interest were the negative responses towards the concept of peer tutoring by regular faculty. The resistance to peer tutoring by the staff stemmed from concerns for the preservation of the regular part-time tutors, and the staff's perception that tutoring required "professional" individuals in possession of appropriate degree credentials. A large number of staff were not in favour of even experimenting with peer tutoring, and showed little interest in the results. They also expressed concern that if and when peer tutoring was
found to be more, or equally as, effective as regular tutoring, the regular tutoring system would be eliminated as a cost-reduction measure. Furthermore, they considered that if a peer tutoring system was put in place, it would be perceived by students and others as non-professional and would bring discredit to the institution (ibid., p.10).

Coldewey makes reference to the successful university-level use of peer tutors in Keller's PSI. He considers that peer tutors could become an extremely effective, low-cost resource in distance education, and recommends further exploration of the idea's potential.

Although the tutor and his or her role in distance education has become an entrenched feature of many distance education systems, there is as yet no compelling empirical evidence that tutoring is effective or that it justifies the costs involved in providing it. This might be the reason that not all distance teaching institutions provide tutoring. There are grounds to suggest that tutoring is a superfluous activity where the course delivery systems are sufficiently sophisticated, as in CAI and CMI.

Nevertheless, there is a political consideration involved in tutoring, as indicated earlier; it involves a credibility factor affecting the distance teaching institution (ibid., p.17). The institution's academic status is enhanced through the employing of doctoral-level tutors, regardless of the favourable characteristics that other methods, such as peer
tutoring, may possess.

Whether tutoring is or is not significantly contributive to studentship in distance education is a question that has not yet been satisfactorily dealt with. Theoretically, tutoring is, in my opinion, an important and helpful activity. Like electricity, it needs to be on line; ready to be switched on when needed. Williams is correct in calling for training of tutors. Lack of tutor training is evidently the problem behind the unfavourable results of a student survey in Britain by Glatter and Weddell. This survey found that tutors were not good at identifying and explaining a problem, and often lacked personal interest (Daniel, 49:31).

The face-to-face situation in distance education. The objective of investigation into face-to-face sessions in distance education is to determine if distance learners who participate in them achieve better than those who do not participate. A study undertaken by Peruniak focused on the seminar as being the paradigm of the face-to-face session in distance education. He states that a true face-to-face situation exists when

* there is a group of individual participants
* there is a moderator or leader
* there is interactive communication
* speaking, listening, and non-verbal communication occur
* instructional objectives are attained (137).

Such a collective encounter is seen as an opportunity for
the student to engage in laboratory and practical work, practice in oral expression, social interaction, crossfertilization of ideas, as well as an opportunity for immediate feedback on content-related matters (ibid.). Despite these indisputable benefits to distance studentship, Peruniak's study showed that he obtained few data in support of the hypothesis that large numbers of distance learners would attend seminars for social reasons, regardless of topic. Also, he found that learners with more educational background tended to favour home-based study and were not interested in group contact. On the positive side, the study indicated some evidence that seminars serve as motivators and that learners will attend them if they are not obligatory and the material presented is not tested.

In terms of actual completion time, there was little difference between a course which offered a seminar and one that did not.

Other studies (Mueller, 1974) (Kustermann, 1970) have shown that significant groups within the learner population prefer to work by themselves without face-to-face contact. In a study reported by Mueller, one half of 1698 students polled considered the opportunity to socialize in a seminar to be of no importance (Peruniak, 137).

However, I think the belief that face-to-face sessions can play a humanizing and motivational role to be well founded, and that more qualitatively-oriented inquiry would
support this. A purely quantitative approach in determining the effect of face-to-face sessions on distance learners does not touch the more profound elements of an educational experience since the influence on the individual of sharing ideas, engaging in debate, exercising self-control, cultivating an agreeable style of expression, and so on, has no common measure. Thus, a truly comprehensive study of the effects of face-to-face sessions in a distance education program should endeavor to determine the contribution made to the quality as well as the quantity of the learning. It would also be of interest to know the effect over time of making strictly formatted face-to-face sessions obligatory.

**Testing and examining in distance education.** In Chapter 4, I gave a general overview of evaluation in distance learning. In this section, I shall take a more in-depth look at the subject by referring to research activity on testing and examining in distance education.

Testing and examining, whether in distance or conventional education need guiding principles, such as Thorndike proposes, namely

* The process of measurement is secondary to that of defining objectives.

* Most educational measurement is at a relatively low level of precision. Therefore resulting scores should be regarded as tentative rather than conclusive.

* Formal testing and examining procedures should be supplemented by informal observation in order to obtain a comprehensive description of the individual.
* No formal testing or appraising procedures can eliminate the need to interpret the results. Measurement procedures are only tools. Insight and skill are required in their use (177:14).

These principles are reasonably self-evident. However, there are functional and administrative obstacles in distant education that stand in the way of full compliance: compromise must be accepted.

Thorndike's principle that formal testing should be supplemented by informal observation is substantially frustrated by the student's "being at a distance." Unless these students are required to participate in classroom sessions in their distance program, it is not possible for tutors to apply the intimate insight suggested by Thorndike in the evaluation of distance learners. Furthermore, the administration of the control of testing in a distance education system is complicated by students who are differentially paced. This means that special tests must be composed for each candidate if test reliability is to be ensured. These are features that make evaluation in distance education a distinct and special activity. In this segment, I shall discuss some of the specific practices that show that the testing and examining process in distance education has unique characteristics.

A well-favoured approach in the examining of distance students is the open-book examination. Research has shown that not only does this type of examination reduce the student's anxiety, and need for memorizing purely factual
material, but cheating, a potential problem in unproctored examinations, is also reduced. Research has also shown that the examination of least benefit to distance learners is the multiple-choice type. Examinations shown to be of greatest value are those in which the student is required to prepare an analysis or synthesis of information, the latter being a close approximation of Thorndike's principle for obtaining a comprehensive idea of the learning the student has accomplished (Feasley, 59:51).

Feasley reports on an informative study of distance education examination methods in which a comparison was made between closed-book tests, open-book tests, and take-home tests. The purpose of the study was to determine students' behaviour and attitudes. Sixty students were randomly assigned to one of three groups that took all three types of tests in a different sequence during the same course. Each test had ten knowledge questions and ten application questions; thus the researchers could obtain a knowledge score, an application score, and a total score for each test. A statistical analysis of the results of the study showed that cheating was no greater problem for take-home or open-book tests than for the closed-book test. Scores obtained for the application questions were not significantly different for the testing modes. However, differences on total test scores and attitudes were more favourable to take-home and open-book examinations respectively. Both high-
ability and low-ability students spent more time on take-home tests, and this could explain the higher achievement (ibid.).

This study essentially verified arguably predictable results. This is not meant to imply that take-home or open-book examinations are lacking in validity. There is, however, the problem of ensuring the integrity of such examinations in a way comparable to traditional examination procedure, in which examinations are supervised. This has much to do with upholding the perception of the college or university as a credible institution. Obviously, there are difficulties in organizing proctoring arrangements for distance learners. The University Without Walls (UWW) movement tackles the problem by using a wholly non-traditional approach in the evaluation of students' learning experiences. The role of the examination is downplayed as the key component in the evaluation process. The UWW method emphasizes a synoptic view of evaluation. Greenberg describes it as follows: The UWW degree requirements are stated in terms of desired balances and overall minimum credits. A minimum of 128 semester credits is required for the B.A. degree. To ensure depth, at least 30 credits must be in the area of concentration; to ensure breadth, at least 43 credits must be in liberal studies. Every individual degree program must be balanced in terms of depth/breadth, theory/practice, and the use of various learning resources. Within these parameters it is claimed that genuine individualization can take place. The approach
recognizes the varied experiences, competencies, backgrounds, and goals which adult students bring to the program. It also encourages faculty to think about competency outcomes and definitions of "educatedness" rather than to concentrate on time spent, accumulated credits and curriculum content as criteria for the awarding of the degree (67:49).

Andragogically, this is sound practice since it emphasizes a qualitative and holistic evaluation of students' competence for the award of credit; it downplays quantitative measures. Such evaluation is particularly facilitated if the final grading of the student is conducted by the tutors who have worked directly with the student throughout the course.

In view of the administrative complexities involved in adapting conventional testing and examination procedures to distance education particularly, and lifelong learning generally, the UWW approach has merit. However, Thomas raises the important issue of learning that has to do with the obtaining of a licence to engage in professional practice. He says that there must be a proper balance between an individual's freedom to learn and society's need to judge and control (127:32). This means that examination and testing procedures must include appropriate safeguards to ensure that the integrity of standards of knowledge and competence are maintained.

It is clear that formal testing and examining procedures are not readily adaptable to many of the non-traditional
learning modes found in lifelong learning. The distance student can be considerably inconvenienced if required to write proctored examinations. Yet proctoring enhances the academic status of the educational institution through the preservation of examination integrity which proctoring is perceived to ensure. Virtually all examinations for professional licensing are proctored.

In distance education, the examining procedures depend largely on demographic geography. Institutional proctoring is used if the students - as a body - have access to a proctoring centre. Failing this, then private proctors nominated by the student and approved by the examining institution is an alternative. The UWW paradigm may be appropriate for some programs - in the Arts, for example. The perceived potential for examination candidates being "coached" in the writing of take-home examinations can be offset by the student's defending his or her examination either in a face-to-face session, or via a teleconference, with the examiner.

Testing and examining in the context of distance education and lifelong learning is cursorily treated in the literature. Yet, as this section has indicated, there are a number of unresolved problem areas that call for in-depth investigation.
This chapter presents some of the research that bears on issues of commonly voiced concern. However, several areas of distance education research and development have not been mentioned, such as cost-effectiveness, different technological applications, and prior learning assessment. These equally warrant discussion, yet what has been presented is adequate to show that distance education research is a progressive activity that points to areas of strength and weakness in an expanding educational enterprise, as well as insufficiencies in the research activity itself.

In distance education, research is hampered by the difficulties inherent in the lack of control over the distance student and the environment in which he or she studies. Consequently, our understanding of learning from the learners' perspective is deficient. As we have seen, much research is concentrated on determining how much is learned in terms of scores on tests, and pass rates. These data give quantitative perceptions of learning in which the education process is inevitably regarded as the acquisition of pieces of knowledge and information. The data are obtained usually by closed-end questionnaires which are inadequate for providing the researcher with knowledge of the reality of learning as students experience it. The student's perception ought to be
examined more closely through the adoption of qualitative methods; these appear to be under-represented in distance education research. A shift in this direction would give a better dimensioned idea of the quality of students' learning.

Concerning face-to-face sessions and the quality of learning in distance education, there is a lot of promotional rhetoric on the subject of the ability of technology to replicate the face-to-face sessions of the conventional learning setting, yet there is no convincing research to support it. The realities of either situation are probably widely different from what is claimed for them. Perhaps we are giving more attention to technology at the expense of that which we should be giving to the educational product. This thought is voiced by several educators with whom I have discussed the subject. There is a continuing impression that the classroom setting is an important factor in achieving a quality educational experience. In this setting, testing and measurement can be holistic, taking account of individual learning strengths and personal needs. It is understandable that some educators have difficulty in accepting clever technological simulations as substitutes or replacements for an environment where stimuli and responses occur in truly human fashion.

There is a need to find more subtle measures to discover the really deep effects of learning at a distance, together with those factors that inhibit it. For example, the
vicissitudes of life are usually cited by students as reasons for dropping out of a course, rather than difficulties with the course itself. Is the reason perhaps a "refuge" in which self-esteem is protected?

The direction which research in education should take is towards investigating the several dimensions of motivation that can be combined to improve course completion. This might take the form of a study of the effects of intensifying, and perhaps modifying, the counseling and guidance function, and another to investigate the design of the curriculum: to look at the learning psychology, its relevance, and the extent to which it reflects contemporary learning theory.
CHAPTER 8

The Four Main Questions Revisited

This chapter presents a general summary of the findings of the investigation as they specifically relate to the four questions previously identified as forming the basis of the study.

Recapitulating:

1. What is the importance of lifelong learning to society and the individual?
2. How relevant is the educational system to the needs of the lifelong learner?
3. What influence is lifelong learning having on the principles and practice of teaching?
4. What role can distance education and technology play in the facilitation of lifelong learning?
QUESTION #1: What is the importance of lifelong learning to society and the individual?

Society. The importance of lifelong learning to contemporary society is explained primarily by society's need to keep pace with technological change and the higher performance levels of skills and knowledge associated with it. More technological change will occur in the next 20 years than has occurred in the whole of history. There is statistical evidence showing that radical technological change occurs over a five-year period. The real and potential economic repercussions of this state of affairs are far-reaching. State-of-the-art knowledge is essential if new concepts and products are to be developed and the problems of remaining competitive in the modern world are to be tackled effectively. It follows that there is a clear link between the economic and educational strategies that society employs. This link is lifelong learning. That it is a major factor in sustaining economic vitality is evidenced by the strong lobbying of the high technology industry for lifelong learning and for major changes in the educational system in order to facilitate it. Traditional beliefs and practice in education do not suffice in addressing the needs of lifelong learners. Most Canadians are not getting the level of skills and training they want and need. By comparison with many other industrialized countries, Canada's human resources are underutilized, says the 1991 Canadian Ministry of Supply and Services' Consultation Paper: "Learning Well ... Living Well".
Thus the introduction of a lifelong learning system in Canada is widely viewed as a matter of urgency.

While some philosophical and methodological changes are occurring in education, the traditional classroom model still prevails. This model is unsustainable in the context of the diverse needs and large numbers of lifelong learners. The present system is pressured to be more productive in terms of instrumental knowledge, in order to increase the competencies of Canada's human capital.

Statistical evidence points to the under-performance of the traditional education system, a condition which generates an academic shortfall that has to be made up by remedial studies through continuing education, or supplementary studies in college or university. To be fair to the established educational system, it ought to be recognized that the demand for university education is rising everywhere, and we simply cannot keep pushing people into the system to the extent that service has to be reduced in order to accommodate them. This situation has led to the non-campus college concept which, while improving access to learning opportunities, makes education available at reasonable cost from the providers' and the participants' point of view.

Lifelong learning is a collective term that encompasses a variety of innovative methods such as I mentioned above, that are able to relieve the fiscal and operational pressures being imposed upon the traditional educational system.
The individual. A Gallup poll has shown that the public at large perceives lifelong learning to be important in combating skill obsolescence. Also, most professional practitioners appear in agreement that continuing, career-long education is essential, and some make strenuous efforts to maintain state-of-the-art knowledge and skills.

There are several ramifications to lifelong learning, but the average individual is fundamentally concerned with holding employment, not the acquiring of a credential. He or she seeks know-how to ensure proficiency on the job; this is the purely pragmatic aspect of continuing education. However, there are other pressures upon the individual. They have to do with coping with life's vicissitudes and its various transition points as the years pass. These transitions involve one's realization of the physiological limitations of human life and the need for a philosophical coming to terms with the passage of time. Lifelong learning is a means of doing this. Progression along the life-path induces strong interest in high quality liberal studies. This is consonant with the maturing process which causes people to become more concerned with abstract, less concrete, learning experiences.

Members of the professions find themselves under particular pressure to achieve advanced credentials in order to maintain their license to practice. This is more than pressure; it amounts to an absolute compulsion that is driven by burgeoning technological and scientific developments. An
undergraduate degree and a master's degree are no longer adequate to equip the professional person for a productive long-term career. Therefore, continuing education has become an integral part of a professional vocation.

Lifelong learning is of particular importance because its many modalities are able to meet the needs of adult learners positioned at virtually any point in the learning continuum, thus making it responsive to the widely differentiated learning needs of working people. Common to most adult learners in their prime employment years is the quest for information that is mainly concerned with current issues of living and working; their time perspective is one of people in a hurry. The innovative methods associated with the lifelong learning movement address these realities. The distance teaching university, the non-campus college, and computer-assisted learning are some of the more obvious examples.

In conclusion. There are three distinct dimensions to lifelong learning: the vocational, the professional, and the avocational. The investigation has shown that the lifelong learning movement is primarily concerned with employment and economic perspectives. Society is generating a frenetic sense of urgency that is impelling us to learn more, learn faster, and to become more self-reliant in the management of our learning. It is to be hoped that withal the educational system, however it evolves, will not neglect its responsibility for contributing to the growth of the mind, and
the expansion of individual and collective horizons, taking learning beyond the pragmatism of day-to-day problem-solving or being simply a means of improving the Gross National Product!

Text References

3, 6, 8, 26, 28, 30, 34, 36, 37, 51, 58, 67, 84, 86, 98, 109, 131.
QUESTION #2: How relevant is the educational system to the needs of the lifelong learner?

Introduction. The investigation has shown that the educational system will have to make changes if it is to meet the needs of lifelong learners. In many quarters there is resistance to such change, stemming, I believe, from a desire for a substantial retention of the status quo. However, such conservatism might well be attributable to a genuine desire to preserve the academic integrity of our long-established academic institutions; integrity which, in the opinion of some educators, could be compromised if many of the changes now proposed were to be implemented.

Nevertheless, the present system is coming under heavy criticism from several authoritative sources. Dissatisfaction is being registered by such bodies as the Bovey Commission, which has observed that all is not well in the educational system, and that we are far from realizing the seamless garment that lifelong learning is intended to represent. The federal government's consultation paper "Learning Well... Living Well" categorically states that future skill needs cannot be met by our existing learning system! The point is that lifelong learning represents a view substantially contrary to that of traditional ideas and practices. This is not to say that the existing system does not have a role to play. The changes it needs to embrace are those that will re-position it as a contributing component within the framework of a lifelong learning culture. Given
the proper context in such a culture, certain traditional, formal approaches can have validity and relevance.

Probably the greatest pressure for change arising from the lifelong learning movement is the high level of political support it receives. It is regarded as a crucial factor in the development and maintenance of a healthy economy. The traditional educational system as presently constituted, cannot be as productive of human capital as the economy requires, because the system simply does not have the capacity to respond to a demand that is becoming greater among adults than among young people - its traditional clientele. The need for, and the direction of, change in the educational system to accommodate lifelong learning strategies and philosophy have been amply demonstrated in the reports of various government commissions and task forces, to which previous reference has been made.

The needs of the lifelong learner. Adult learners are not best served by, nor do they seek, situations that are characterized by the traditional in loco parentis style found in the education of the young. Adults have a deep need to be self-directing in their learning experiences, but they desire to do so in a highly supportive environment. Based upon these principles, the philosophy of andragogy has developed. The andragogic school acknowledges that adult learners experience continued adjustments throughout life in terms of perspective, beliefs, values, and attitudes. Andragogic methods are
sensitive to these adjustments. Thus a higher degree of support for, and consideration of, individual needs becomes necessary in a lifelong learning setting. The andragogical model is one that has the learner in "centre stage" - with a focus on the student's own interests. It is a model that encourages independent initiative-taking. This concept is in marked contrast to the conventional "batch" approach that characterizes the traditional learning environment. Lifelong learning calls for the special methods of teaching and learning that andragogy provides, and for the special relationship between all participants in the learning process that is associated with it.

Dewey, years ago, observed the irrelevancies between daily life and the learning materials and methods of the educational system. The lifelong learner cannot be adequately served by an educational system that is not highly relevant to current situations. He or she seeks answers to prevailing, mainstream problems in his or her employment, or niche in society. The essence of a lifelong learning culture is, therefore, a merging of episodes of living and learning.

Adult learners are working persons and cannot be unduly constrained by schedules and timetables imposed by the administrative machinery of the traditional system. Their education, of necessity, needs to be flexible in that it can allow for self-pacing; student input in the design of individualized programs; and the use of different delivery
systems such as distance teaching in situations where access to learning opportunities is restricted by geographical location or other inhibitors.

Flexibility also means permitting learners freedom to enter, exit, and re-enter a learning program. Conventional education is inherently limited in its capacity, philosophy, and methods to satisfy the present and future demands for educational services that a lifelong learning culture will impose.

The exigent nature of the situation was illustrated by the CEO of a Canadian corporation who said: "We cannot afford to have our executives attend universities or colleges for weeks at a stretch - we need short, sharp-edged, issue-related sessions. We are teaching each other and relying less on the educational system."

Deficiencies in the educational system. Those that particularly inhibit its service to the lifelong learner are to be found in the following areas, each of which has been individually scrutinized during the course of the investigation. In responding to the Question, I am isolating the deficiencies that have most bearing upon service to the lifelong learner.

* Systemic deficiency: There is strong evidence that the conventional educational system will be unable to cope with the demand that the predicted increases in lifelong learning activity will impose. Fundamentally the problem is
organizational and structural, and has arisen from outdated policies that have supported the proliferation of independent educational fiefdoms instead of co-operation and homogeneity. One educator has commented, in the context of the needs of the lifelong learner: "The present educational system is like an archipelago with a lousy ferry service!"

* Inappropriate philosophy: The philosophy of education guiding the traditional system is more pedagogic than andragogic. It is geared to the educating of the young, hence both philosophically and methodologically the system is incompatible with that of adult education. Indeed, the institutional custodial methods of teaching and learning that characterize the pedagogic model cannot satisfy the needs of lifelong learners.

While the educational system pays some attention to Continuing Education, it does so somewhat perfunctorily, as confirmed by the findings of the Smith Report (The Commission of Enquiry on Canadian University Education) which notes that there is an apparent reluctance to welcome continuing education into the heart of the university mission. My investigation suggests this might derive from considerations of academic status rather than from a philosophic doctrine.

The investigation has shown that traditional evaluation systems, and the standards they seek to uphold, are inappropriate in lifelong learning. Demonstrable competence, rather than pre-prescribed training activity, is the goal of
the adult learning experience. This is seen as the true arbiter of what is, or is not, a successful educative episode.

* Access problems: The educational system's most conspicuous shortcoming is to be found in its inability to improve access to the further learning opportunities sought by increasing numbers of lifelong learners. Access to learning in the traditional system is obstructed by distance, inconvenient time-tabling, non-availability of needed courses, as well as curriculums' lack of relevance to learners' specific needs. Furthermore, there is the problem of needed courses being available only on a full-time attendance basis, thus effectively excluding the part-time learner.

* Fiscal difficulties: Fiscal restraints currently being imposed upon education at all levels are a considerable impediment to the implementation of the sought-for changes in education. It is hardly reasonable to expect the extensive "retooling" of the system, as advocated by some reformers, if financial resources are being severely diminished. Major changes aside, there are problems that are due to the increasing costs involved in building and plant maintenance, and keeping laboratories updated with state-of-the-art equipment. The education system finds itself in a seemingly absurd situation of having to respond to a mandate to be more productive and to teach more people, in the face of diminishing financial resources needed to "kick start" the process. Theoretically, increased enrollment equates with
increased income with which the system can be funded - Catch 22! But, larger enrollments would come from the lifelong learning constituency, the members of which are best served by educational methods far different from those used in the traditional system. The system is thus faced with whatever costs are likely to be involved in the planning and restructure necessary to serve and attract the lifelong learner.

* Deterioration of quality: This is largely tied to fiscal considerations. The system's academic performance is roundly criticized by many commentators. It is alleged that the quality of higher education in Canada has eroded, entrance standards have been lowered, and core curriculums have disappeared. Many of these allegations have some substance, as the investigation has revealed. While the universities are being asked to do more to maintain and upgrade the competency of practitioners in the professions, equivalent attention is not being given to the ongoing professional development of university and college faculty, the individuals upon whom the responsibility for productivity and quality of education ultimately descends.

The educational system languishes for lack of political resolve to address obvious deficiencies, and one observes, with a sense of alarm, the frailty of the foundation upon which the structure of a quality lifelong culture is to be erected.
* Methodology: The methodology of the traditional educational system is tied to the classroom paradigm. This is unsustainable in the context of the needs, and of present and predicted numbers, of lifelong learners. Traditional methodology limits access, is governed by pedagogical, not andragogical, thinking, incurs high cost/student, and, furthermore, is unable to keep pace with the technology-driven demand for higher performance levels of skills and knowledge.

Traditional education is perceived as dragging its feet in the matter of the adoption of technological, systematized methods. This apparent tardiness may, to some extent, be due to ideologically motivated reluctance to accept change, as well as simply the inability to fund it. The latter is a matter for the politicians to deal with.

The investigation has shown that the educational policies and systems that have served in the past are not able to satisfy present and future needs of a lifelong learning movement. Yet there is much of value that should neither be forgotten nor discarded.

Bridging the gap. The objective here is to achieve the systemic seamlessness that lifelong learning is intended to represent. To make progress in this direction, substantial alterations need to be made to the structure of the traditional system. The first requirement is for a national co-ordinating agency to integrate the various components of the existing system. This involves redefining what is
commonly understood by "educational system." Redefinition needs to be in terms of systems approach theory. This concentrates attention on administrative procedures and educational methodology for the main purpose of improving efficiency, speed, and access in the provision of service to the learner.

Furthermore, a more "open" system is called for; one in which the restrictiveness of rules and regulations that govern admission in the traditional system is either diminished or abolished. Also, there should be wide recognition that a true conceptual framework for lifelong learning takes in the workplace and the community, and is therefore not confined within the physical walls of an educational institution. This means emphasizing situated, rather than didactic, learning; bringing the educative experiences to the learners; surrounding them with learning opportunities in contrast to having them coming to a specific place at a specific time to receive them. This means switching from a pedagogic to an andragogic paradigm. Thus the system will have to give alternatives about how, when, and where to learn. Adults need to be allowed a good measure of control over their learning experiences. This is in recognition of the fact that many adults do learn more efficiently and quickly on their own, and it follows that the system ought to facilitate and encourage students to obtain information for themselves, with, perhaps, occasional face-to-face sessions in classes or one-on-one with a tutor.
It is consonant with andragogic principles to cause learners to rely less on the teacher and more on themselves for the management of their learning experiences.

Distance education embodies many of the foregoing principles and postulates. In fact, distance education is probably the largest and most significant adaptation that the conventional education system should consider in meeting the needs of the adult learner. Given a large distance learning clientele, economies of scale can be significant, as Britain's Open University has demonstrated. The de-emphasizing of campus-based learning for continuing education in favour of distance learning offers the possibility of a fiscally viable enterprise.

Not all change has to be radical. Appropriate adjustments can bring about an effective ecumenical intermeshing of traditional and non-traditional methods. For example, the introduction of a system of evaluation for the award of academic credit for individuals who have acquired a wide variety of educative experiences other than through conventional in-class settings. This would enhance the system's relevance to real-world experience and could also form the basis for giving recognition to competencies that have been previously and convincingly demonstrated. Employers' concern is that employees' learning experiences shall result in demonstrable competencies. It therefore behooves the educational system to include them as a critical
element in its evaluation procedures.

Perhaps too much is being demanded of the public educational system, and more thought and encouragement should be given to the contribution that can be made by the corporate sector. This sector should be regarded as an integral component of the lifelong learning system since it already makes a significant contribution by way of in-house training activity geared to enhancing employees' job-specific skills. This learning activity, although not lifelong in absolute terms, is positively connected with productivity during the learners' employment years. Corporate sector educational initiatives should therefore come under the rubric of the lifelong learning movement. This idea prefigures an intermeshing of the different educational agencies, public, private, and corporate, that can form the framework of a lifelong learning culture. It also bespeaks the need for planning and co-operation, and underscores the importance of the introduction of a national integrating agency. Juxtaposed with this is the need for fluidity of transfer from one mode of learning or one educational institution, to another by means of a learning passport or learning portfolio. Some steps in this direction are already being taken through articulation agreements permitting transfer of academic credit from college to college, college to university. This policy could be expanded to include private vocational school credits to be transferred to colleges, and also college and university
recognition of certain programs conducted under the aegis of the corporate sector, (banks, finance houses, engineering consultancies, and so on).

Finally, administrators and teachers in the traditional educational system should receive every assistance in making themselves au fait with the unique philosophical, psychological, and methodological aspects of lifelong learning. This involves learning about new technologies and their role in adult education, as well as becoming well-informed in andragogic principles.

The traditional system requires to be amended and adjusted, not abandoned. It has much of value to offer. There needs to be an holistic accommodation of both cultural and occupational learning. This can be achieved through the careful merging of what traditional and non-traditional education have to offer. Doing this amounts to an expansion of (what is to be understood as) "the educational system" to embrace the whole spectrum of traditional and non-traditional, public and private, contiguous and non-contiguous educational activity under a nationally appointed body.

Text References
1, 2, 4, 7, 19, 23, 25, 26, 27, 28, 29, 30, 33, 45, 46, 48, 52, 59, 61, 65, 71, 73, 83, 84, 86, 87, 94, 100, 109, 138, 162, 192, 201, 204.
QUESTION #3: What influence is lifelong learning having on the principles and practice of teaching?

A different concept. Lifelong learning is a complex concept, partly because of the continual process of adjustment through life, involving a person's perspectives, beliefs, values, and attitudes. This has given rise to the development of a special philosophy associated with the education of adults; one that is fundamentally distinct from that pertaining to the education of younger students. The distinctions are social, physiological, economic, and, to a large extent, environmental, each of which has been examined in the course of the investigation.

In lifelong learning, greater attention is paid to the individual needs of the learner than in the education of the young. The influence of Dewey's progressive school is evident in virtually all facets of contemporary adult education. This has brought about a reappraisal by the teaching profession of its mission and methods as applied to lifelong learning.

Teaching is adapting itself to the lifelong learner in that it is moving towards making learners more responsible for the management of their own learning, and it is de-emphasizing the formal traditional custodial mode of education. This shift is occurring because conventional methods have become an expensive and inappropriate means of achieving adults' learning objectives. Furthermore, conventional methods can handle only a diminishing part of the learning that the lifelong learning movement is required to provide.
A viable lifelong learning system has to recognize, and be responsive to, the fact that adult learners are mainly concerned with current issues and problems associated with living and working. To most, continuing education episodes are viewed as "pit-stops" in the "road race" to the learner's individual objectives. The adult learner, in the main, is a person looking for "know how" more than knowledge. Adults therefore need and seek educative experiences that acknowledge these realities, and it is such that give a unique identity to the principles and practice of teaching adults.

Teaching redefined. The teaching profession is becoming more involved in the teaching of adults and, as indicated above, a less traditional approach in the education of these students is necessary. In adult education, the focus is not so much on what the teacher does as on what happens to the learner. The adult learner finds himself or herself in a maelstrom of social and technological change, and the task of the teacher is to endeavour to bring about reconciliation through helping the student to become self-empowering so that he or she can accept and manage change, be it in society or the work-place. Among the teacher's primary objectives, apart from developing an appreciation of the idiosyncratic nature of adult education, is getting learners to tap their own inner resources: Firstly, to discover themselves, and then to discover for themselves, what they need to know and the competencies they have to develop. Simply put, teaching in
the context of lifelong learning is the facilitation of self-teaching.

Such facilitation is not easily defined because it goes beyond conventional teaching into the many different modes and situations in which adult learning can occur. Facilitation of adult learning is more than the competent exercising of mere technical skills. There is no set of rules since success depends substantially on the personal qualities of the facilitator and the inspirational force he or she can bring to bear in different learning situations. The literature points to the need for the adult educator to adopt a less conservative, more innovative and flexible stance, filling rather the role of a "prompter" than centre stage performer. In practical terms, this amounts to having to wear different hats, such as sometimes counsellor, role model, or guide, and, on occasion, expert resource.

The latter is really the traditional teacher's main role, but in this age of super-specialization, it is clearly impossible for an adult educator to be much more than a generalist. Consequently, he or she has to be alive to the need to locate, or help locate, the best expertise available. The real focus of facilitation is to be found in the stimulating of learners to seek out for themselves valid expert knowledge and advice as and when they need it.

This is the essence of the self-teaching environment and brings to mind the jingle oft quoted by the educators of the
progressive school and allegedly attributed to Benjamin Franklin:

Tell me, and I forget,  
Teach me, and I may remember,  
Involve me, and I learn!

Self-teaching is acknowledged as an imperative if individuals are to keep pace with change. The task of the facilitator is to jog, not coerce, the adult learner out of his or her ingrained mind-set of acquiescence and into an active role of taking part in the organizing and evaluating of his or her own learning. For the many practical and economic reasons discussed in the investigation, adult learners have to reduce their dependence on an instructor and/or on an educational institution. Thus the teaching profession's mandate must emphasize the provision of a helping relationship which involves, among other things, assisting students in learning how to learn!

It is the "helping relationship" between "teacher" and learners that can be the most disturbing perspective for teachers conditioned to the traditional authoritative mode. Helping emphasizes listening, not telling. Decision-making is not by teacher fiat; it is a co-operative activity involving the sharing of thoughts and ideas between the learner(s) and teacher - teacher and learners. Clearly, effective facilitation requires the "teacher" to adopt a low profile. Creativity and spontaneity, essential to the adult learning situation, must not be stifled by anything the teacher or the
student might say or do; and it will not be if all participants in the learning experience are involved in its planning and the carrying out of the learning activities even to the point of the evaluation of learning outcomes.

The helping relationship is a critically important aspect of the teacher's role in distance education. Distance learners particularly require the sort of help that will promote motivation to study. The facilitator's task is to stimulate, support, and strengthen each learner's motivation to study. Empirical data attests to the performance of distance students being highly correlated to the quality of the relationship between student and tutor. The faculty of distance teaching universities and colleges are better described as mentors. They require broad skills since they do many things: They counsel students over the phone, prepare cassettes, do record-keeping, conduct face-to-face sessions, help develop course material and learning packages, as well as being involved in student motivation and the evaluation of student performance. And they are "on call" when needed. While a part of this is amenable to computerization, some preference has been shown by students and faculty for the retention of "human contact" between the DTU and the distance learner.

The profiles of the facilitator and the mentor reviewed in this segment illustrate the significant difference in their role and responsibilities when compared with those of the
traditional teacher. The profiles also point to the importance of the provision of conscious systematic training of lifelong learning teachers to school them in handling the many dissimilarities in the principles and practice of adult teaching and learning compared with those of conventional education.

Other singularities. Much of what follows complements what has been said in the previous segment. We now take a look at some other psychological and methodological singularities associated with lifelong learning.

The investigation has drawn attention to the significant influence of the learning environment on the adult learning process. The authoritative, structurally rigid approach of conventional institutions of learning has been shown to be maladapted to adult students. Lifelong learners need and seek independence from rigid institutional governance because, in general, they have a reasonably coherent understanding of what specific knowledge and skills they need, and are looking for resources to support their quest. Thus, as previously observed, the profile emerges of the lifelong learner as a self-directed individual who possesses a useful repertoire of practical experience. Such a repertoire in itself represents a qualification that justifies the learner's personal participation in the evaluation of the learning experiences in which he or she wishes to engage, or has engaged. This evaluation should be holistic and result in the participant's
feeling satisfied with the content and conduct of the learning episodes. Clearly, such an evaluation cannot be a procedure that inflexibly conforms with conventional practice or involves the barrenness of purely quantitative measures based on a regurgitation of facts.

Thus the adult learners are not passive recipients of information; they are, and need to feel, the owners of their learning if it is to succeed. This is something that has a lot to do with the learning environment, and depends to a great extent upon the socio-emotional component of that environment. A favourable socio-emotional climate relies for its creation upon the skill and sensitivity of the adult educator by and through whom a trusting relationship is developed. The "teacher" and the learner are thus able to get a sense of shared ownership in the educational experience.

Arguably, the educational and social benefits of this relationship are being, to some extent, usurped by technology, which is taking over from the real-presence interaction of learners with teachers. However, the perceived flip-side of this is that technology permits learners to learn systematically wherever they are located, even the work-place, thus facilitating the oft-advocated paradigm shift from didactic to situated learning.

Situated learning has educational, logistic and financial advantages which have been touched upon in the investigation. However, the shift in this direction is beginning to attenuate
the image of a physical institution where learners congregate. Lifelong learners are being found in increasing numbers on the rolls of distance teaching universities and non-campus colleges. This migration is inexorably bringing changes in the principles and practice of teaching and learning as the demand for lifelong learning and participation in it increases. In attempting to get a synoptic view of the many changes currently occurring in education - as well as those in prospect - one is led to observe, ambivalently, that not all change is bad, nor is it good!

The need for vigilance. Lifelong learning has been shown to possess a different modus operandi from conventional education. It has developed, and continues to develop, its own protocols upon which are based unique principles and practices of teaching and learning that are substantially antithetical to those found in conventional education.

The investigation has shown that a strong case can be made for many of the changes that the growth of the lifelong learning movement is engendering. However, there is a need to be watchful concerning the nature and degree of change, its timing, and its possible reverberations throughout the educational system. Equally, one has to be alert to the possible consequences of opposition to change, or the failure to perceive the need for change.

Justification for such vigilance can be found in the following examples, the contexts of which have been examined
in the investigation.

It has been shown that for the effective construction of a nation-wide lifelong learning system, far-reaching changes in the administrative structure of education are recommended. In and of themselves, changes in this direction do not necessarily give cause for alarm. However, their ramifications, which include the intensification and expansion of teaching activity through non-campus institutions, and the role of the teacher changing to that of facilitator, suggest that there will be less concentration on research and scholarship in our institutions of higher education, the consequence of which is that graduate education would give less exposure to new thought and theory. Casting the teacher as a non-expert facilitator discourages his or her involvement in specialized scholarly activity. This imperils the main function of higher education.

Furthermore, while the concept of self-directed learning is empirically supported by data which shows that many learners can and do teach themselves a difficult body of knowledge, the majority of learners do not, because they either cannot, for reasons of learning skill deficiency, or they do not desire to do so. Thus the enthusiasm for self-managed study and the economic benefits that would allegedly accrue from its wide adoption should be tempered by a more intimate understanding of who the adult learners, in the main, really are. Normal distribution identifies them as
individuals seeking to be taught; and happier being taught by teachers having expert specialist knowledge. The educator's job, for the most part, is concerned with this group. This calls to mind the triage analysis used in field medicine: when resources are limited, give help to likely survivors; let those who can, take care of themselves; for the others, show compassion!

An example of needed change not being made is observable in numbers of graduate school programs where there seems to be an insensitivity to part-time students' greater maturity and deeper knowledge base, and the employment responsibilities they carry. Such students represent the majority of all engaged in advanced study; they are learners whose educative experiences ought to be conducted according to andragogic, not pedagogic, principles.

Also, there are philosophic aspects to some changes in education that evoke well-premised objections from within and outside the system, examples of which include the watering down of liberal studies in higher education programs; the retrenchment of tutorials and opportunities for face-to-face interaction at graduate level; the subordination of environmental issues to the making over of the educational system as a major organ of production for expanding the Gross National Product!

These are some of the areas in which the architects of educational change and reform need to tread carefully. Any
philosophic or methodological shift in education occasions some reverberations. And the possibility, however slight, of "a cure being as bad as the disease," or babies being thrown out with their bath water, should not be overlooked!

The investigation has shown not only that lifelong learning has brought change in terms of the conventional principles and practice of teaching, but has also thrown light on some of the ramifications and repercussions of such change.

**Updating educators.** In view of the complex, interrelated elements in adult education that the investigation has uncovered, we are led to inquire what steps are being taken to assist educators to become informed and effective professional practitioners in the field of lifelong learning.

The literature pays scant attention to the professional teacher's updating needs, and there are few formalized teacher-updating programs extant that specifically focus on those who work with lifelong learners. Those programs that are to be found are in the domain of distance education and are generally conducted by the distance teaching institution in which the teachers serve.

There are grounds for concern about the non-availability and inadequacy of teacher education in the many facets of lifelong learning. Regrettably, university faculty are often found to be ineffective teachers, yet they are unaware of their shortcomings. However, it would be unfair to lay this entirely at the teachers' door for two reasons: First, there
is an unwillingness by universities generally to ascribe sufficient status to teaching compared with research, and second, the universities are remiss in not doing enough to ensure that the faculty obtain knowledge of adult education through purposeful teacher education rather than leaving them alone to develop the skill by osmosis, which may or may not lead to acceptable results.

Since university and college faculty are mostly involved with mature learners, they should obviously receive teacher education that exemplifies and demonstrates the andragogic methods found effective with adult learners. But there is more to the process than this: the multiplicity of means and media for dispensing lifelong learning add complexity in terms of managerial and technological dimensions. These represent major expansions of the art and science of adult education, and must be included and emphasized in any contemporary teacher education program.

Teacher education should be strengthened and given the content and scope it needs if lifelong learners are to be effectively served. It is more important that universities and colleges assign priority to setting up comprehensive, ongoing faculty development programs in lifelong learning than to pour money into modish gadgetry and innovations.

Text References

3, 17, 19, 35, 36, 38, 44, 48, 54, 57, 58, 61, 63, 64, 65, 67, 69, 70, 71, 72, 73, 74, 76, 77, 78, 84, 86, 87, 88, 97, 107, 112, 121, 123, 158, 188, 205, 235, 256, 258, 286.
QUESTION #4: What role can distance education and technology play in the facilitation of lifelong learning?

Introduction. Distance education tackles the problem of continuing education, which is the predominant one that all traditional educational institutions are having to face as lifelong learning becomes an even larger part of the education continuum. The real and predicted growth of distance education is such that the traditional educational system will become overloaded. Furthermore, the provision of the kind of support and service logistics that are required by a lifelong learning system are things that traditional institutions and methods were not designed to handle.

Distance education not only reduces the load on the traditional system, but creates improved accessibility through the different forms that distance education can take, making it viable in a variety of learning situations.

Distance learning has come to be regarded as synonymous with lifelong learning. It is, in the main, a technology-driven system, and this gives it considerable potential for the delivery of educational services to a large heterogeneous population of adult learners. The sophisticated technologies associated with distance education move the educational process away from critical dependence on a physical classroom and allow a learning environment to be created in the learner's home or place of employment - a major convenience for most adult learners.

The investigation has shown that distance education has
an important role to play in the development of a lifelong learning culture in that it can allow considerable flexibility in terms of time and place of learning, particularly in the distance teaching mode.

The traditional educational system has been judged deficient in terms of its capability to be sufficiently productive in meeting national demands for highly skilled human resources. That distance education is a preferred, if not the only, path to be taken in the development of a cost-effective, productive system, is the conclusion of several federal and provincial government inquiries into the functional status of the traditional educational system.

Access to learning. In order for a lifelong learning system to be productive in terms of knowledge imparted and numbers of learners served, there has to be reasonable ease of access to it. Also, such access has to be "open," where openness has to do with non-stringent admission criteria, facilitating learners' contact with available learning resources, and, with the aid of technology, the removal of constraints imposed by geographical separation of the learner from the educational institution. This degree of openness is positively correlated with the extent to which an educational institution is involved in distance education. The access thus provided enables a very large population of part-time learners to avail themselves of further education opportunities, and it represents the closest we can come, at
present, to universality of access. Ease of access is critically important to the lifelong learner since the large majority are part-time, gainfully employed individuals. Where the educative experience is obtainable only on a full-time attendance basis, they find themselves effectively excluded, because they cannot quit their employment and go to school full-time. There is also the matter of learners' preference for the self-teaching, personal scheduling, and the removal of the need to travel long distances to attend classes, that learning at a distance allows.

Accessibility is very much a university issue because of the value ascribed to a university education for economic and social reasons. It is therefore not surprising that special distance teaching institutions like UKOU, Athabasca University, and Fernuniversitat have come into existence in recent years. These institutions are wholly concerned with providing university education, at a distance. Many traditional universities also are establishing, and have established, distance teaching arms through which programs of higher learning are offered.

Distance education has become the dominant mode in lifelong learning, where ease of access is of primary importance. It is the coupling of communications technology with distance education that gives the system ubiquity. The literature shows that technology in the form of computerized distance learning systems is the direction that the
development of a lifelong learning culture will take. Computer-managed and computer-aided distance teaching methods are currently persuasively demonstrating their ability to provide a level of accessibility far beyond that of which a traditional system is capable. Particularly will this be so as the availability of computer networks increases where students live and study.

Other favourable features. Distance education is now a virtually and wholly technology-based activity. Even in its elemental form, involving print material used in the purely correspondence mode, technological adjuncts such as audio- and video-cassettes have been introduced. Audio tutor-tapes allow didactic conversation between learner and tutor. This is also achieved in a more sophisticated way by means of teleconferencing, and multi-media computer programs. Thus, technology not only offers a substitution for the on-campus learning environment by endeavouring to convey the thoughts and presence of master teachers, but it also can do much to reduce the distance student's feeling of isolation by involving learners in individual two-way real-time communication with tutors.

Distance education not only shifts education in the direction of independent learning but it does so productively by servicing large numbers of learners and by compressing learning time. However, it is not cheap, and its use in any of the several distance teaching variants has to warrant its
capital and running costs. Nevertheless, migration away from the campus paradigm can have favourable economic ramifications. Because of the different forms which distance education can take, it is difficult to compare the costs and benefits with those of traditional education. In any case, economic effectiveness in and of itself should not necessarily become the determining measure of a distance education system. Yet there is evidence that where a marked increase in cost-effectiveness, particularly in terms of capital expenditure of an expanding educational system, is of vital concern, distance education is considerably more cost-effective than a conventional system covering similar subject matter. This was the case with UKOU, which serves as a striking example of how economies of scale can be realized through distance education. UKOU has achieved a recurrent cost per equivalent undergraduate that is about a quarter of that at traditional universities and it has attained parity of academic standards with them. This is a reasonable demonstration of the cost-effectiveness realizable in a high enrollment, technology-driven distance education operation.

Dissenting views. While distance education is generally enjoying increasing prestige in university and college-level education, it has, like anything else, its advocates and critics. Despite the impressive developments that have occurred in recent years, a significant measure of non-acceptance of distance education and the new technology is to
be found. Many of the areas of contention have been discussed in detail in the investigation; however, those that seem to cause most concern have to do with distance education's perceived (in the critics' view) lack of legitimacy because it offers "pre-digested" instruction rather than open-ended dialogue, which is considered to be the essence of a good education. Closely associated with this is the objection that too much faith is being put in technology as a comparable substitute for real personal interaction with other human minds. Also, the same degree of student deprivation is perceived in the promoting of independent, autonomous learning since this, so it is argued, can lead to isolation from the necessary societal context of the learning itself, the hypothesis being that all learning involves concomitant human skills upon which the ultimate success of the learning experience depends.

Considerations like these have given rise to some skepticism and sincerely-held reservations on the part of many conservatively-minded educators who regard these deficiencies as rendering distance education an inferior option in the field of continuing education. It is, not incorrectly, observed that there is much faddism in educational change; and that some innovations, often widely accepted, are of doubtful value. Critics claim that much innovation may be due to salesmanship, publicity, and community pressures rather than enlightened educational reform. They claim it is therefore a
spurious assumption to relate, unequivocally, innovation with improvement.

Comments. Criticisms levelled at various aspects of distance education and technology should not be lightly dismissed, yet many of these aspects represent no more than the down-side that any and every system is bound to possess. The task is to decide if, on balance, an innovation represents significantly greater gain than loss in the desired direction of change.

Technology clearly has an important role to play in modern education, as the investigation has demonstrated. However, that role must be carefully identified and its boundaries circumscribed. It is certainly possible to over-enthuse about technology, and so capture the imagination that support for, and commitment to, it follows, even on the basis of the most tenuous performance data.

It is understandable that there will be voices raised in opposition to the changes that the adoption of distance education represents. Conservatism, mistrust, even fear and prejudice, are the elements that engender resistance to change of any sort. Possibly the most disturbing aspect of distance education, from the point of view of those individuals whose training and experience has been associated with service in the traditional system, is that the time has arrived when there is no absolute requirement for students to congregate in traditional institutional settings in order to study
effectively. The traditional concept of what constitutes an effective learning environment is changing.

To those who express their concern about learners' apparent divorcement from a campus-based institution, one points to this not being always the case in lifelong learning—nor is it in distance learning. The campus experience can be included in a learning program optionally, or as occasion demands, without significantly debilitating the learner's advantage of studying at a distance—away from the institution.

While the university of the State of New York Regents' Extension program (REX) conducts a wholly non-campus degree program, components of that program may involve attendance episodes at, or under the aegis of, other institutions, including USNY-approved in-house courses conducted by the corporate sector or the military. Furthermore, the Open University in the United Kingdom has given a genuine cachet to distance education programs that originate from recognized degree-granting institutions. This can be construed as an endorsement of both the method and the quality of distance education at the tertiary level of education. This, in some measure, addresses the concern of whether or not a "true university education" can be obtained via distance teaching. If we use the commonly accepted definition that the goal of a university education is the development of learners' capacity to think for themselves, distance education may have reached a
point of compatibility because the viability of distance learning depends to a large extent upon learners' ability to do just that: to self-teach, and to substantially self-manage their own education.

The multi-form nature of distance learning has the dividend of permitting the system used to be modulated and adapted according to the learner's circumstances without seriously compromising the individualization that characterizes learning at a distance. This flexibility makes it difficult to charge that distance education is intrinsically either bad or good. Some of its forms have, in fact, been adopted by traditional education, and it thus causes the distinction between distance and campus-based education to become blurred; the more so as a lifelong learning culture develops and traditional institutions adopt more distance teaching methods, and DTU's introduce (as UKOU has done) face-to-face tutorial sessions. In this way, a solidifying of the idea of the type of convergence that could eventually become an integrated reciprocating system might develop.

Finally, we are living in an era in which virtually every social, commercial, and industrial activity is being systematized and computerized in the pursuit of efficiency and productivity. Clearly education, its institutions and its methods cannot escape being analyzed as systems. To resist or oppose this inevitable evolutionary development is tantamount
to sending an important message about Education's ability to advise, direct, and teach people in the arena of social and technological growth.

I support those educators who seek to preserve and promote a lively colloquy that brings people together who would otherwise never meet, let alone discuss the imperatives that drive modern education and contemporary society - be it by campus congregations or even the Internet!!

Text References
CHAPTER 9

Recommendations and Concluding Comment
Recommendations

CHAPTER 1

1. There is a need for a move from the independence - even isolation - of our educational institutions towards closer, inter-institution co-operative arrangements on a nation-wide basis.

CHAPTER 2

2. Lifelong learning should capitalize on learners' experience and enlist their active participation in all stages of their education. The actual and potential value of adults' experience should be given academic weight.

3. General and civic education should be integrated with technical and vocational training.

4. There needs to be a sharing of responsibility for the provision of professional and vocational training with the corporate sector.

5. The transfer from one institution to another; one educational format to another; and the recognition of non-collegial learning episodes, should be made easier in order to avoid "dead-ending" the learner.

6. All professionals should engage in ongoing learning activities as a condition for continuance of their licence - or other authority - to practice.

7. Executives in business and industry should engage in issue-specific brainstorming sessions with colleagues, facilitated by top-flight academics in the field. Employers should be instrumental in setting this up.

8. A true system of continuing education needs to be created; one which would provide instruction and support to all students, both part- and full-time (Thomas).
9. A national framework for lifelong learning is needed; one that will authoritatively and systematically pull together education providers in the public, private, and corporate sectors to create a learning highway accessible to all. This "highway" should have points of entry and exit, and thus change the perception of lifelong learning as being nothing more than a piecemeal series of educative experiences.

CHAPTER 3

10. Lifelong learning ought to possess a philosophical and methodological unison extending throughout the educational continuum; from younger to older learners.

11. Encouragement should be given to university and college faculty at all levels of seniority, to participate in formal programs of teacher training.

12. Learners will have to take more responsibility for managing their own education and training over a larger part of their life.

CHAPTER 4

13. Guidelines should be established for the granting of academic credit for a wide range of learning experiences, such as: community service, in-service training, and volunteer work.

14. Adult learners are not adequately served by the formalized evaluation processes of traditional education. More holistic methods focusing on demonstrable competencies need to be devised.

15. The concept of a document such as a "learning passport" that represents a comprehensive compendium of an individual's course-work, experience, personal development, and confirmed competencies, should become the focus of a research initiative in the evaluation of lifelong learning activity.

16. The whole field of quality assessment and control requires rescrutinizing in terms of its
relevance and validity in the context of lifelong learning.

17. There should be a shift in the evaluation of an educational institution from the structure and "tools" it employs, to the effect it has on students - a concentration on performance rather than process.

18. The accreditation process ought to be extended and developed to accommodate new-entrant degree-granting, innovative colleges, and thereby facilitate their growth.

19. The cautious admission (cf Recommendation #18) of non-traditional, free-standing, secular, degree-granting institutions into the lifelong learning movement should be seriously considered.

CHAPTER 5

20. If universality of access to continuing and higher learning opportunities is ever to be achieved, a highly diversified system that presents learners with multiple options has to evolve.

21. In the interests of cost-effectiveness and productivity, a systems approach should replace the incremental style of management that characterizes the administration of traditional education.

CHAPTER 6

22. Inter-institution competition should be supplanted by co-operation that involves resource-sharing for the purpose of reducing the operating costs of distance education.

23. Caution needs to be exercised to ensure that the quest to cut costs and improve productivity does not have a deleterious effect upon education itself. Technology must not be allowed to solidify a hegemony in education.

24. The classroom, and the special environment it represents, should be carefully preserved.
CHAPTER 7

25. More qualitatively-oriented research should be undertaken into the effects of face-to-face sessions in distance learning programs.

26. Research in distance education needs to emphasize the investigation of the several aspects of motivation that can be combined to improve course completion.
Concluding Comment

This investigation has presented a broad picture that portrays lifelong learning's relationship with contemporary full- and part-time education.

The main focus has been that of comparing the characteristics, motivations, and attitudes of lifelong learners engaging in non-traditional learning experiences, with those in the traditional system.

The investigation confirms the conclusion shared by many scholars that a limit has been reached as far as the expansion of the traditional system is concerned. There is much advocacy for the use of different methods; distance education in particular, since it can dramatically increase access to higher learning opportunities for part-time students.

While federal and provincial governments are substantially in accord concerning the need for higher learning to become more widely accessible, the importance of lifelong learning as an integral component of such accessibility goes largely unrecognized.

From the lifelong learner's point of view, there need to be appropriate extrinsic motivations and inducements to encourage regular involvement in further education, particularly during an individual's most formative and active employment years. In this context, we also see the evident
need for deeper inquiry into the nature of the Helping Relationship.

Nevertheless, changes are taking place. Sporadic and piecemeal though they may be, they are sufficient to suggest that the prospects for the development of a properly integrated national lifelong learning system are encouraging. We will continue to hope that the structure that eventually emerges will be one that is philosophically predisposed towards learning how to make a life rather than make a living!
REFERENCES AND BIBLIOGRAPHY


5. Raath, John A. "Distance Students' Learning." Distance Education, 3:1. 1982.


34. Exploring the Effects of Peer Tutoring in Distance Education. REDEAL Research Report No.3. Edmonton: Athabasca University, October 1980.


49. ______, Martha Stroud and John R. Thompson, eds. **Learning at a Distance - A World Perspective.** Edmonton: Athabasca University - International Council for Distance Education, 1982.


78. Hey, M. H. "The Adult Learner and Education." (n.d./n.p.). Professor Hey is a member of the Faculty of Education at the University of Western Ontario.


82. Holmberg, Robert G., and Trilochan S. Bakshi. "Laboratory Work in Distance Education." Distance Education, 3:2. 1982.


121. _______ . If the Future Were the Past - The Likely Consequences of Maintaining Current Policies of Base Funding for Ontario Universities. Discussion paper. 1990.


172. ______. November 28th, 1986.


______ . The Continuing Education of Professionals with Special Reference to Engineers and Scientists. (Monograph). Toronto: University Without Walls International Council, 1983.


U.S. Congress. Congressional Resolution No. 708. N.d.


198. Willmott, Gary, and Bruce King. "Professional Development Courses in Distance Education." Distance Education, 5:1. September 1984.


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2. What are the features which distinguish non-traditional from traditional education, and what is the relationship of lifelong learning to non-traditional education? 18

3. What pressures are the evolutionary forces in society imposing on the educational system and what, if any, are the recommendations for responding to them? 25

4. What are the problems associated with maintaining professional competence, and how may they be alleviated? 35

5. How does the educating of adults differ from the educating of younger students? 57

6. What special qualities and skills do teachers of adults require? 65

7. What are the characteristics of a viable adult learning environment? 78

8. How should educational institutions change to accommodate the needs of the lifelong learner? What currently is being done? 83
9. What is the perceived status of lifelong learning compared with that of traditional education?

10. How is lifelong learning evaluated?

11. What assurance has the lifelong learner of the quality and eventual recognition of his or her studies, and what is the role of accreditation in providing such assurance?

12. What access has the adult learner to continuing and higher education; what are some of the difficulties associated with obtaining such access?

13. Are there grounds for suggesting that distance education is as, or more, open, productive and learner-friendly compared with conventional education?

14. Are non-traditional methods of education, specifically distance education, cost-effective?

15. What technologies are considered to be currently or potentially facilitative of lifelong learning?

16. What are the salient features of a systems approach to education and how is the approach complemented by computer-assisted delivery systems?
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<td>20. What are the evidences that are claimed to attest to the validity</td>
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<td>of distance education at university level?</td>
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<td>21. What is the scope of research activity in distance education?</td>
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</table>
I am a Ph.D. student in higher education at the Ontario Institute for Studies in Education, and my area of specialized study is the investigation of lifelong learning in the context of traditional educational theory and practice.

My thesis will be an exploratory study in which the present higher educational system will be examined in the light of its service to the lifelong learner. It will focus on philosophical, functional, and economic issues.

The purpose of the study is to develop an integrated picture of current educational practice as it affects Canada's growing clientele of lifelong learners. I would suggest to you that lifelong learning is already affecting many of the beliefs, theories, and practices of traditional education.

My thesis will be based on extensive references to original documents, scholarly papers, and published texts, as well as input from administrators and faculty of a number of Canadian universities and community colleges.

I have identified a number of questions that I believe describe the issues that my thesis needs to address. I would much appreciate having your opinion of these questions. I want to concentrate the study on those areas that persons such as yourself, who are in the front line of higher education, perceive to be the most needing detailed enquiry.

I assure you that, as a potential respondee to my questionnaire, your responses or any comments you may care to make will be treated as confidential data and not released to a third party, nor be subject to the possibility of evaluation on the basis of what I write in my thesis. Returned questionnaires will be scrutinized by myself purely for the purpose of validating, modifying, adding to, or deleting the questions according to any general consensus that completed questionnaires may indicate.
All questionnaires will be held secure in my safety deposit box at my local bank; they will be shredded after the final evaluation of my thesis.

If you agree to participate, please feel free to withdraw at any time; I will simply shred your questionnaire response sheet.

I have already collected a substantial amount of information - sufficient to indicate that the study could result in a useful resource to administrators in institutions of higher education.

I hope that you will participate and I take this opportunity of thanking you in advance for your valued cooperation.

Sincerely,
QUESTIONNAIRE

The participant is asked to review each of the following questions, and indicate his/her opinion as to the question's validity and relevancy to the proposed study (i.e. the investigation of lifelong learning in the context of traditional educational theory and practice).

Please check the option that best reflects your opinion. You may care to comment on the four questions and/or the sub-questions, or suggest others, in the space provided on the last page of this questionnaire.

THE QUESTIONS

1. What is the importance of lifelong learning to society and the individual?

2. How relevant is the educational system to the needs of the lifelong learner?

3. What influence is lifelong learning having on the principles and practice of teaching?

4. What role can distance education and technology play in the facilitation of lifelong learning?

SUB-QUESTIONS

Valid Exclude Modify Comment

1. What is the distinction between continuing education, adult education, recurrent learning, and lifelong learning? ___ ___ ___ ___

2. How are changes in technology and society impacting the educational system and the working adult? ___ ___ ___ ___

3. What are the problems associated with maintaining professional competence, and how may they be alleviated? ___ ___ ___ ___

4. How does the educating of adults differ from the educating of younger students? ___ ___ ___ ___

5. What are the qualifications of an effective adult educator? ___ ___ ___ ___
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<th>What are the characteristics of the adult learning environment?</th>
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<td>7.</td>
<td>How should educational institutions change to accommodate the needs of the lifelong learner? What currently is being done?</td>
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<td>How is lifelong learning evaluated?</td>
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<td>10.</td>
<td>What assurance has the lifelong learner of the quality and eventual recognition of his or her studies, and what is the role of accreditation in providing such assurance?</td>
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<td>11.</td>
<td>How are the problems of access to be solved? What substantive measures are being taken?</td>
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<td>12.</td>
<td>To what extent can the strain on the educational system due to increasing participation in lifelong learning be eased by distance teaching methods?</td>
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<td>13.</td>
<td>Are non-traditional methods of education, specifically distance education, cost-effective?</td>
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<td>14.</td>
<td>What role can the new technology play in facilitating lifelong learning? Are there preferred technologies?</td>
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<td>15.</td>
<td>In what ways is the learning environment changing?</td>
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<td>16.</td>
<td>What are some of the real and perceived problems associated with the new technology and distance learning in providing educational services to lifelong learners?</td>
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<td>17.</td>
<td>What are the reasons given by some educators for their non-acceptance of distance education and the new technology?</td>
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18. How effective are non-campus distance-teaching universities and colleges? What is their academic status? How do employers regard the credential awarded by these institutions? 

19. Can a "true university education" be obtained through distance education? 

20. What is the scope of research activity in distance education? 

21. What research has been undertaken in student completion and attrition in distance learning courses? 

22. What is the most effective approach to evaluation in non-traditional adult education? 

23. Should advanced standing (under the rubric of Prior Learning Assessment) be granted for employment experience?
Institutions Contacted

(Each institution received the covering letter and the four-page questionnaire in this Appendix)

Universities:

The University of British Columbia
Carlton University
Laurentian University
McGill University
University of Ottawa
Ryerson University
University of Regina
St. Francis Xavier University
University of Saskatchewan
Wilfred Laurier University

Community Colleges:

Cambrian College
Fanshawe College
Centennial College
Sault College
Georgian College
Algonquin College
Confederation College
Sir Sanford Fleming College
Northern College
Conestoga College
APPENDIX 3
CONSULTATIONS

I am indebted to the following individuals, and the institutions or agencies they represent, for sharing with me their concerns, opinions, and ideas about the lifelong learning movement.

Don C. Ahrens, B.A.  
President, Lindon Services, Communications Consultants.

Kenneth Barber, D.B.A.  
Vice-President Finance, Unifin International, Stratford, Ontario.

Pierre-Yves Boucher, B.A.  
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Aubrey Hagar, B.Sc. Director (Ret'd.), Department of Academic Planning, Conestoga College.


Earl Heusser, Ed.D. Executive Director, National Association of Private, Non-traditional Schools and Colleges Colorado, U.S.A.

Christopher Hope, B.A. Principal, Granton Institute of Technology.

Daniel Kazmierski, D.Admin. Director, ICS International Mail Sales, Ltd.

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Peter Newell, M.A. President, Wolsey Hall, Oxford, U.K.

Sheila Price, M.A. Tutor, Open University, U.K.

Charles Rushton, C.M.,B.A. Dean of Continuing Education (Ret'd.), Sault College.

Alexander Schure, Ph.D. President, New York Institute of Technology.

Melvin Suhd, M.A. President, Sierra University, Los Angeles, U.S.A.

Heikki Thoen, M.Phil. Vice-President, Education, ICS Canadian Limited.

Mariam Verjee, B.Admin. Executive Assistant, Ministry of Health, Toronto.

Erwin Waschnig, Ph.D. Executive Director, University Without Walls International Council.
VITA

Lewis Tremlett trained as a broadcasting engineer with the British Broadcasting Corporation. After World War II he went to Malaya as Technical Officer in Charge of Government Communications for the British Foreign Service. Later he entered industry as Head of Systems Planning for the Communications Division of Redifon Ltd., U.K. He emigrated to Canada in 1963 and served as Head of Electronics Technology at the Northern Ontario Institute of Technology. In 1968 he joined the Adult Education Centre in Kitchener/Waterloo as Assistant to the Administrator. In 1975 he was appointed to the Ministry of Colleges and Universities as Supervisor of Private Vocational Schools for the Province of Ontario.

Lewis Tremlett was a charter member of the University Without Walls International Council, and its first Vice-President. He is a certificated college master, and is a graduate of the City and Guilds of London Institute, New York Institute of Technology, and the University of Toronto. In 1973 he received the City and Guilds of London Insignia Award in Technology for his development work in systematized industrial training. He is presently working as an independent training consultant to business and industry.