PERSPECTIVES ON DISTANCE EDUCATION
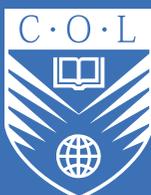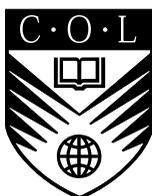
Lifelong Learning & Distance Higher Education

Christopher McIntosh, Editor
Zeynep Varoglu, Editorial Coordinator

COL   UNESCO

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The Commonwealth of Learning (COL) is an intergovernmental organisation created by Commonwealth Heads of Government to encourage the development and sharing of open learning and distance education knowledge, resources and technologies.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) was founded on 16 November 1945. UNESCO is a specialized United Nations agency promoting international cooperation among its Member States and Associate Members in the fields of education, science, culture and communication.

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Published by:

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FOREWORD

by the Director-General of UNESCO

When UNESCO was founded in 1945, no one in the world of higher education could have foreseen how radically this field would change by the beginning of the twenty-first century. The onward march of globalization, the rise in student mobility, the increasing emphasis on lifelong learning, the proliferation of open universities, the growing role of private sector providers, the advent of the Internet, e-learning and virtual classrooms – all of these developments have profoundly altered the nature of higher education over the past few decades, and the future undoubtedly holds further radical changes.

Throughout this period, UNESCO has continued to uphold the fundamental human right to education and the principle that higher education should be accessible to all on the basis of merit and throughout the life span. It was, for example, largely through the advocacy of UNESCO that the concept of lifelong learning came into widespread use from the 1970s onwards. UNESCO also remains committed to the free exchange of ideas and knowledge, to the development of a learning culture, to the promotion of knowledge as a global public good, and to the building of a truly democratic open learning world. In the perspective of these aims, the new world of higher education that is now unfolding offers both immense promise and great challenges.

On the one hand, the Internet and e-learning are enabling higher education to reach out, on a hitherto unprecedented scale, both to geographical areas and to sections of the population previously unreached. These technological developments have brought the vision of a global knowledge society appreciably closer to attainment. On the other hand, this vision will remain unattained as long as there is a gap between the technological "haves" and "have nots". This "digital divide" will continue to widen unless urgent steps are taken to close it. Another challenge is that of maintaining the quality of higher education despite the rapid expansion and great diversity of provision, some of which is relatively untested. Moreover, related to quality is the question of accreditation and the recognition of qualifications, an issue growing in complexity as higher education becomes increasingly "cross-border" in character. A further challenge for distance higher education in particular is how to operate in a global environment while remaining attentive to the needs, capacities, traditions and values of particular countries and cultures.

These are some of the issues that are addressed in the present volume, which brings together a diverse group of experts from many countries. The contributions as a whole provide a clear picture of the challenges, problems and potentialities of distance higher education at its current stage of development and offer numerous practical insights for planners and policy-makers. The book is a joint initiative of UNESCO and the Commonwealth of Learning (COL), with which we are pleased to be collaborating. Both of our organizations share the aim of ensuring that the new technologies are used to bring higher education in a truly inclusive, relevant and equitable way to the people who need it. We hope this volume will bring that aim closer to realization.

Koïchiro Matsuura

PREFACE

by the President and CEO of Commonwealth of Learning

After World War II Lord Beveridge declared that the UK's Welfare State should take care of its citizens from "the cradle to the grave". Others, with a penchant for rhyme, later captured the cycle of life in the phrase "womb to tomb". More recently Professor Arun Nigavekar, Chairman of India's University Grants Commission, introduced assonance with a cultural twist by referring to learning from "cradle to cremation"! Whatever expression we use for the life cycle, lifelong learning is a crucial response to the challenges of the global knowledge economy.

A decade ago I wrote this about the renewal of universities in my book *Mega-Universities and Knowledge Media*:

> The term "lifelong learning" is now part of the vocabulary of the industrialized world. It describes the need for people to continue their education and training throughout life because they will face multiple careers in changing economies and enjoy longer lives in evolving societies….Most universities have reacted to the era of lifelong learning by adding new programmes and services for the increasing numbers of older people who seek to combine employment with part-time study. Special arrangements have been developed for these students but the core activity of the university, teaching to full-time young undergraduates, often goes on much as before (1996, p.7).

It is good to observe how attitudes have changed in ten years. The term "lifelong learning" has become part of the lexicon of the developing world; ICTs have revolutionised the university both as "idea" and as "institution"; private and cross-border providers are significant players; lifelong learning is both formal and non-formal; and the boundaries between face-to-face teaching and distance education are increasingly blurred.

By making learning possible anytime and anywhere, distance education is a powerful tool for supporting lifelong learning. Technology-based teaching is creating new educational systems that eliminate boundaries of geography, jurisdiction and time whilst integrating academic and real-world concerns and giving students more extensive and affordable choices. The key challenge for universities is to evolve from a teacher-centred model of education to an approach that emphasizes learning productivity — and to carry students with them. The challenge for governments is to develop policies for a world in which traditional funding methodologies and quality assessment procedures may no longer work.

What are the trends and issues in lifelong learning? What are the alternative models of lifelong learning? How does lifelong learning link with distance higher education? What are the implications for policy at the international, national and institutional levels? What challenges do developing countries face in promoting lifelong learning? These are some of the questions that are explored in this book, commissioned jointly by UNESCO and COL, in order to help policy-makers in Member States make informed decisions about dealing with the multi-faceted phenomenon of lifelong learning.

The Commonwealth of Learning is many years junior to UNESCO. Established by the Commonwealth Heads of Government in 1987, COL is the only international, intergovernmental organisation of any kind that focuses exclusively on helping countries to use technology to increase the scope and scale of education and training. Technology has already revolutionised many areas of life and our job is to extend that revolution to learning. We focus particularly on the technology of open and distance learning because it has shown its power and value in many countries and for many applications.

Technology has the power to break the insidious link between quality and exclusivity that has marred the face of education throughout history. Everyone used to assume that increasing access to education meant raising its cost and lowering its quality; that improving quality implied higher costs and less access; and so on. The revolution of distance learning allows us to widen access, improve quality and cut costs – all at the same time.

The staid language of COL's mission statement tries to capture this revolution:

> Recognising knowledge as key to cultural, social and economic development, The Commonwealth of Learning is committed to assisting Commonwealth member governments to take full advantage of open, distance and technology-mediated learning strategies to provide increased and equitable access to education and training for all their citizens.

Having recently moved from UNESCO to COL I find that these two intergovernmental organisations complement each other well. UNESCO covers the whole of education, whereas COL focuses sharply on technology-mediated learning. UNESCO's 193 Member States represent the world in all its complex diversity, whereas COL exists for 53 countries, mostly developing states that are democratic and peaceful. A special characteristic is that two-thirds of these Commonwealth countries are small states, either islands or landlocked territories, in which the use of learning technologies is particularly helpful. Finally, UNESCO has thousands of people around the world while COL has a staff of only forty based in Vancouver and New Delhi.

COL leverages its modest resources by partnerships and collaborations. This book is a product of our close engagement with UNESCO and our common objective of ensuring quality Education for All. It furnishes a range of insights and describes successful practices for planning and implementing distance higher education for the lifelong learner. It encourages Member States to explore new and dynamic approaches in adopting the emerging trend of lifelong learning. Its aim is to promote debate and contribute to a culture of lifelong learning in our twenty-first century world.
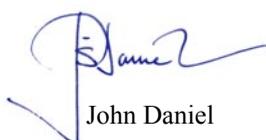
John Daniel

CHAPTER 1

INTRODUCTION

Christopher McIntosh

As globalisation advances, education is increasingly crossing borders — national, regional, sectoral and institutional. At the same time educational systems are having to respond to other profound changes, such as the knowledge explosion, the changing interaction between the public and private spheres and the increasingly rapid development of information and communication technologies (ICTs). Terms such as the "global economy", the "post-industrial society", the "information age" and the "knowledge revolution" crop up increasingly in the discourse of educationists. It is, of course, possible to speculate endlessly about where these developments are leading and how education should respond. Meanwhile, the work of education has to go on and practical policy decisions have to be made. The challenge for policy-makers is to make informed decisions on the basis of the best information that can be gathered at the time, so as to capitalise on the advantages of these far-reaching changes, while minimising the disadvantages and risks. The present book focuses on the area of distance higher education, with an emphasis on the lifelong learner, bearing in mind the increasing need for international co-operation and for co-ordinated policies in areas ranging from quality assurance to funding and appropriate use of ICTs. In the form of a collection of searching papers by experts on the various topics covered, it aims to be both an up-to-date study of the important relevant issues, problems and trends, and a practical manual for planners and decision-makers.

The contents of the book are grouped thematically as follows. This introductory chapter serves to orient the reader by providing an outline map of the territory to be covered. Chapters 2 and 3 provide a broad background survey, indicating some of the general trends, issues and challenges in the area of distance higher education and lifelong learning at their current stage of development. Chapter 4 deals specifically with one of the major issues, that of funding. Chapters 5, 6 and 7 are devoted to experiences from three particular countries, namely Senegal, China and Finland, all of which, in their different ways, provide useful insights and policy lessons. Chapters 8, 9 and 10 deal with key overarching issues such as quality assurance, accreditation, recognition of qualifications for certification, and cross-border student mobility, describing some important national and international initiatives in these areas. Chapter 11 focuses on a theme that is of great relevance for the whole field covered in this book, namely the need for a sound and constantly growing base of research on which to plan and carry effective distance and lifelong education programmes. At the end of each of the main chapters is a checklist

of policy implications relating to the area covered by the author – that is to say, specific lessons that can be applied by planners and policy-makers. Each chapter, in addition to a bibliography and notes, contains a list of relevant Web sites. The final chapter is a conclusion drawing together the main threads of the book and pointing out some of the broad implications for the future that can be drawn from it.

HIGHER EDUCATION AND LIFELONG LEARNING AT A CRITICAL JUNCTURE

The volume appears at a time when higher education in general and lifelong learning in particular are at a critical juncture for a number of interrelated reasons. Traditional universities, nationally based, registered, regulated and accredited, with their campuses, their classroom teaching, their libraries and research facilities and their well defined disciplines, are under many pressures. They are struggling to find the resources to sustain their existing structures, and they are challenged by new models of education and research which are breaking down the old categories and divisions. One example of such developments is the emergence of what Michael Gibbons has called "Mode 2 knowledge production" (Gibbons *et al.*, 1994). Unlike Mode 1, in which universities and research institutions generate knowledge through teams of carefully chosen specialists working within well defined disciplines, Mode 2 knowledge production is flexible and transdisciplinary, involving a wide range of partners from different sectors, public and private. The universities are having to recognise that they are now only one player, albeit still an important one, in this greatly expanded knowledge production process. The effect of globalisation is: (a) greatly to widen these networks of cooperation for knowledge generation, (2) to increase competition for money, contracts etc. At the same time there are those who point out that this trend has its dangers, such as excessive corporate control.

Universities are also having to respond to quantitative changes, including a massive overall increase in intake. A UNESCO follow-up report to the 1998 World Conference on Higher Education (WCHE) states: "Higher education has continued to grow at even higher rates than during the pre-WCHE period. Current estimates indicate that the historic threshold of 100 million students worldwide has been crossed and the prospect of reaching the figure of 125 million students will be attained before 2020… Important increases in student numbers are reported in all regions, in particular in Africa, Latin America and the Caribbean, the Arab countries, and in Eastern and Central Europe." (UNESCO, 2004: 9) Much of this increase was accounted for by a new breed of private universities that are proliferating everywhere, while the public universities often struggle with shrinking funding and under-staffing. At the same time the pattern of enrolment differs between the developed and developing countries. The same UNESCO report points out that, despite increases in absolute enrolment figures, very few of the developing countries have been able to "make real progress in catching up with the developed countries with regard to access to and participation in higher education". For example, "the chances of a young person born in sub-Saharan Africa to accede to higher education are roughly eighteen to twenty times lower" than those of a young person from an industrially developed country (UNESCO, 2004: 9).

When one looks at the profile of the students being enrolled, some interesting developments are apparent. While in many countries most of the increase in enrolment has been accounted for by youth and young adults, in some countries — such as Canada, New Zealand and the UK, a significant number of older adults have also been entering

the system (Schuetze and Slowey: 3). This is evidence of a breaking down of the old age-related patterns.

The demands of the learners are also changing. With the continuing explosion of knowledge and the breaking down of the old fixed patterns of employment, learners are increasingly demanding a type of education that allows them to update their knowledge whenever necessary and to go on doing so throughout their working lives. It is less and less realistic to imagine that one can take a degree as a badge of employability, go into a career and never return to education. Furthermore the traditional concept of a degree course — as a coherent and clearly defined programme of study at one institution — is being challenged. More and more learners want to pick and choose courses from the most suitable providers, as and when they need particular knowledge or expertise according to the needs of the job market. In response to this, many commercial providers have entered the higher and further education market and their numbers are increasing steadily. Many of these providers operate internationally, and this is coupled with the increasing international mobility of students. In the face of these developments, the traditional universities themselves are having to adapt, some more successfully than others, extending the range of educational services they provide and often reaching out to other parts of the world. This is creating new challenges and opportunities for university departments catering for adult learners, such as that of Oxford, and for distance universities, such as the Korea National Open University, India's Indira Gandhi National Open University, Britain's Open University and Turkey's Anadolu University. However, universities are increasingly having to recognise they are only one part of a complex educational tapestry. "Alongside the schools, the work place and the community, higher education represents just one element in any strategy for achieving the objective of lifelong learning for all." (Schuetze and Slowey: 7)

All of these developments are closely intertwined with the most striking development of all: the phenomenal growth of information and communication technologies. These are having a profound effect at all levels of education, including traditional university programmes, but they arguably benefit the lifelong learner particularly, as Mary Thorpe points out in the third chapter of this book, dealing with the impact of ICTs on lifelong learning. Most lifelong learners face time, mobility and financial constraints because of their career and family circumstances. Now, given the right computer technology, they can create a flexible learning timetable, attend seminars and tutorials from their desks at home and access much of the study material they need online. ICTs can also significantly reduce the cost of a university programme. At the same time ICTs give rise to new problems, not least the so-called digital divide. "As things stand at present, a new divide, between the "info rich" and the "info poor" is added to the traditional divide between the "haves" and the "have-nots". It is estimated that 400 million people use the Internet but this represents just 7 per cent of the world's population." (UNESCO, 2004: 7-8) Increasing access to ICTs must therefore be an integral part of any effective global higher education strategy.

ALTERNATIVE MODELS OF DISTANCE AND LIFELONG LEARNING

While globalisation, ICTs and other developments are forcing rapid changes in higher education, there are certain more perennial issues that remain relevant. In the field of lifelong learning and distance education, one of the questions that arises is what model or models of distance and lifelong learning are appropriate, as these models

evince important differences that can have profound implications for programming. Without attempting here to give an exhaustive list, here are some of the most important models:

- The functionalist model, focusing on "human capital" formation, keeping learners abreast of technical developments, and teaching essential skills for vocation.

- The critical literacy model, as promoted by writers such as Paulo Freire, focusing on empowerment and consciousness-raising and the development of a challenging, questioning attitude towards assumptions and concepts that one might previously have taken for granted.

- The social justice model, sharing some elements with the critical literacy model and including such areas as gender, human rights, peace studies, neo-colonialism and programmes focusing on ethnic minorites and socially marginalised groups.

- The reflective learning model, focusing on the development of meta-level skills whereby the individual can critically assess different theories, discourses and knowledge paradigms. This model could be characterised as "learning how to think".

- The compensatory model, in which the educational content is intended to remedy some deficiency in the learners. An example would be remedial writing courses for students who enter higher education with inadequate composition skills.

- The humanistic model, exemplified by the Folk High School movement of N.F.S. Grundtvig, in which the aim is essentially to broaden learners' horizons and enrich their minds.

While the functionalist model looms increasingly large in today's world, it is important to be reminded that other models also have an important role to play. Suzy Halimi, in the second chapter of this volume, while acknowledging the great importance of the functionalist model within the sphere of employment, emphasizes that the other models are integral to a holistic conception of lifelong learning. Indeed the title of her chapter, *Lifelong Learning for Equity and Social Cohesion*, could encompass, in one way or another, all of the models mentioned above.

UNESCO, in its vision of lifelong learning, has tended to promote a wide spectrum of models. The seminal Faure Report, issued under UNESCO auspices in 1972, saw education not only as a means of promoting vocational competence and economic progress but as a way of expanding individual freedom and enabling people to live fulfilled lives in a variety of roles (Faure). Building on Faure, the Delors Report of 1996 enumerated "four pillars" of education — learning to know, learning to do, learning to live together, and learning to be (Delors) — to which the UNESCO Institute for Education has added a fifth: learning to change (UIE, 2003). At the other extreme are the programmes based on a narrowly focused view of learning, such as the commercially oriented initiatives that emphasise the functionalist model. In between these two extremes are many combinations of approaches, and it is possible for different models to complement each other. For example, the functionalist approach can benefit from the reflective learning model. Indeed, arguably the latter is becoming more and more relevant in the age of the Internet, when the user is faced with a multitude of competing paradigms, systems of knowledge and information sources of widely varying degrees of reliability. In such a situation it becomes vital to possess the faculty of critical discrimination, which the best universities have always aimed to develop. Thus, perhaps paradoxically, in our digitalised world the traditional role of the university could take on a new relevance. The other models also have their legitimate roles. Critical literacy is an important tool for developing active citizenship and therefore an essential prerequisite for democracy; some students will always require compensatory education of one kind

or another; and the humanistic approach to education will continue to have an important place, since — to quote the slogan of UNESCO's 1997 Fifth International Conference on Adult Education — learning should be considered a "joy" as well as a tool, a right and a collective responsibility.

The predominant model used in a lifelong learning programme will have practical implications for the method of educational delivery. In the sphere of distance education using ICTs, for example, one of the choices is between asynchronous, individual learning, where the students access the course material when it is convenient for them, and synchronous, group learning, where the students interact collectively with the instructor in real time — e.g. through online lectures and seminars. While the asynchronous, individual approach can often work well for the functionalist model, it may not be so suitable for the critical literacy model or the reflective learning model, where there is much to said for the cut and thrust of direct interchange with a teacher in a group setting.

While most major distance universities operate a mixture of the synchronous and asnychronous modalities, there is a tendency among the large providers to emphasise individual learning, since it enables vast numbers of students to be catered for at low cost. Arguing for this approach, Sir John Daniel has said: "The focus on the individual gives students flexibility over when and where they study. It may be the home, the workplace, the commuter train or the airport lounge. Because it is convenient and flexible you can reach large numbers — so access improves. And because you reach large numbers you get economies of scale, so study costs less for all concerned. You also get higher academic quality, because the scale allows you to make a bigger academic investment". (Daniel, 1998: 27)

The choice of model can also have implications for funding, since some models (e.g. the functionalist) can more easily attract funding than others (such as the critical literacy or the humanistic model).

THE NEW GLOBAL LEARNING ENVIRONMENT AND ITS CHALLENGES

While different models may lead to different problems in application, there are certain overarching challenges for planners and policy-makers — some of them perennial, others created or magnified by globalisation and technological change. One of the main aims of the present volume is to assist in finding practical and constructive ways to meet these challenges while pursuing the search for quality.

An important set of challenges exists in the area of regulatory mechanisms and recognition of qualifications for certification. Globalisation of education has brought about an erosion of the traditional role of governments in this sphere. As Marijk van de Wende has pointed out: "Not only ownership, but also such issues as quality, credibility and responsibility are being blurred. Often national governments are not in a position to steer initiatives, nor can they always monitor the quality of a particular programme or the trustworthiness of certain non-accredited providers… Consequently they are unable to inform citizens on the quality of certain products… Both students and, in a later stage, their employers may be uncertain about the value of degrees and certificates". (Van der Wende: 13). The value of a degree or qualification may also be affected by restrictive practices within the student's home country. As Támás Lajos writes: "In some cases, we find that as student mobility increases, access to university degrees entitling holders to work in their chosen field is protected by professional associations. One of the instruments used to restrict the job market is the introduction of bureaucratic and

inequitable regulations governing the recognition of qualifications. As a result, there is a danger that free mobility will not keep pace with the development and diversification of higher education." (Lajos: 51). There are a number of international initiatives aimed at promoting convergence in this area, but clearly there are many difficult hurdles still to be overcome.

Another set of challenges surrounds the question of financing, which is both an eternal issue and one that has been affected by the changes mentioned. In the past financing of lifelong or continuing education could basically be divided into four approaches: (1) where students paid, directly or indirectly, for their own education; (2) where the state paid; (3) where private industry paid; (4) where the cost was covered by autonomous institutions belonging neither to the public sector nor to private industry but often having links to both — e.g. foundations, trade unions, professional associations, religious groups and non-governmental organisations. The picture has now become more complicated with the increasing internationalisation of education, the widespread erosion of the role of the state, the rising costs of traditional forms of delivery, and growing pressures to make education meet the needs of the market. Commensurate with these changes, the funding modalities are also changing. Increasingly, for example, international organisations such as the World Bank and the various development agencies are funding educational initiatives, and new forms of educational partnership between the state and the private sector are coming into being. The chapter contributed by Greville Rumble and Frederic Litto examines the financial demands on distance higher education programmes, describes the shifts in cost structures brought about by technological developments, and explores some of the ways in which funding can be secured, giving examples of various solutions that have been applied in Latin America and other regions.

Turning to the question of the digital divide between the developed and developing countries, between those who can afford the equipment for online learning and those who cannot: on this question Olivier Sagna provides an illuminating chapter looking from the African perspective at the question of how countries with a lower rate of computer access and a less well-developed information technology infrastructure can fare in the age of ICT-based learning. He begins by giving a sober assessment of the situation in Africa, then describes an ICT-based diploma programme for librarians in Senegal and some of the lessons that it can offer.

The digital divide, especially the internal divide between geographical regions and between urban and rural areas, is an important issue for Chinese planners of distance learning, as is made clear in the chapter by Ding Xingfu, Gu Xiaoqing and Zhu Zhiting. At the same time, China has made impressive progress in the development of distance and ICT-based higher education, in which the government is playing a central role. The Chinese case, in a markedly different way from the Senegalese one, provides a number of useful policy lessons.

As of 2003 China possessed three of the world's mega-universities, that is to say universities with over 100,000 students and using largely distance learning methods. Examples of mega-universities are the Shanghai TV University, the Korea National University, the Open University in the United Kingdom, the Indira Gandhi Open University in India, the University of Phoenix in the USA, Spain's National Distance Education University and Turkey's Anadolu University. These universities have been widely hailed as the way of the future for distance higher education, with their cost-effectiveness, economies of scale, state-of-the-art delivery methods and ability to reach out to a wide international clientele. However, there are many who are eager to point out the drawbacks of the mega-universities as compared to the traditional campus-based institutions. These critics complain about lack of face-to-face contact between student and

teacher, erosion of traditional academic values, loss of a sense of community and shared tradition, technological development at the expense of pedagogical standards, a tendency towards cultural homogenisation, and an emphasis on quantity over quality. The chapter by Insung Jung provides a valuable contribution to this debate by giving an overview of the quality assessment systems used by the mega-universities.

INTERNATIONAL SIGNPOSTS

In their efforts to grapple with the above-mentioned challenges, policy-makers can be encouraged by the fact that there has already been — and continues to be — much collective brainstorming as well as practical collaboration going on nationally, regionally and internationally. Here UNESCO has, of course, played and continues to play a central role through its meetings, reports, publications and collaborative projects. One such project, described in the chapter by Zeynep Varoglu, brought together an international team of experts in the fields of informatics and higher education with the aim of supporting informed decision making for quality provision of open and distance learning. As Ms Varoglu shows, the experiences gained from such a project can provide valuable lessons for future initiatives in the same general area.

An equally important contribution by UNESCO and other organisations has been through various seminal conferences that have helped to pave the way forward and establish signposts for the future. These include the series of international conferences on adult education, the most recent of which took place in Hamburg in 1997. The *Hamburg Declaration* and the *Agenda for the Future*, which emerged from it, remain key documents. The UNESCO World Conference on Higher Education, held in 1998, was also a seminal event and resulted in a *World Declaration on Higher Education for the 21st Century*. This called, among other things, for higher education institutions to be open to adult and lifelong learners and to make full use of ICTs. Going beyond the functionalist model, it also said that students should be educated to become critical thinkers and responsible citizens (UNESCO, 1998). A further very important UNESCO initiative was the launching in 2002 of the Global Forum on International Quality Assurance, Accreditation and the Recognition of Qualifications in Higher Education, an international platform for co-operation and bridge-building between governments, inter-governmental organisations, higher education bodies and other stakeholders. The main framework for UNESCO's actions in higher education are its six Conventions on the Recognition of Qualifications, five of which are regional and one inter-regional. These conventions are key standard-setting instruments in higher education, ratified by some 120 member states of UNESCO.

Apart from the pioneering work of UNESCO, there have been a number of other important conference declarations and international initiatives. The Cologne Charter of 1999, adopted by the G8 group of advanced industrial nations, recognised the importance of lifelong learning as a "passport to mobility" and laid down various strategies for its future development, including. "modern and effective ICT networks to support traditional methods of teaching and learning and increase the quantity and range of education and training, for example through distance learning." (G8). The Bologna Declaration of the same year, signed by 29 European ministers of education, set in motion the "

," which aims to create greater consistency, comparability and interchangeability among European higher education systems as well as promoting co-operation in quality assurance.

Providing essential continuity in international co-operation are various networks,

associations and groups of countries working together on joint educational projects and sharing resources, knowledge and experience. A leading example is UNESCO's partner in the creation of this book, the Commonwealth of Learning, launched in 1989 and based in Vancouver, whose mission is to assist "Commonwealth member governments to take full advantage of open, distance and technology-mediated learning strategies to provide increased and equitable access to education and training for all their citizens." (COL). Other such groupings and networks exist at regional level. For instance, the Council of Europe and UNESCO have established the European Network of National Information Centres on academic recognition and mobility (the ENIC network). These centres (ENICs) work in complementarity with the National Academic Recognition Centres (NARICs), established by the European Union.

An important role here is also played by bilateral organisations, such as the Netherlands Organization for International Cooperation in Higher Education (NUFFIC), whose aim is to help strengthen higher education institutions in its partner countries. It also furthers academic interchange and student mobility between those countries and the Netherlands, and promotes harmonisation of qualification and recognition systems. Chapter 10 of this volume is a contribution by Astrid Scholten and Jindra Divis of NUFFIC, discussing two aspects of the Dutch experience in promoting cross-border recognition and mobility. The chapter first addresses the issue of outgoing students and the measures taken by the Netherlands to improve quality assurance and recognition of programmes outside the country. Secondly, the authors describe procedures for recognising the competence of incoming students. The Dutch experience is presented as an example of good practice from which others can draw their own lessons.

While all of the various international conventions, declarations, processes, networks etc. present a somewhat complex picture, they reduce the need for educational planners and decision-makers to "reinvent the wheel" in their particular initiatives. There is, however, a further important prerequisite for effective programmes, namely research. In the planning of distance higher education one needs reliable and up-to-date information and analysis in a variety of areas, chiefly the following five: (1) learners and their needs; (2) teachers and their needs; (3) the needs of employers and the market; (4) didactic methods; (5) technological developments (such as methods of online delivery of learning material). Tony Bates, in Chapter 11, addresses this topic. He describes how, with the expansion of lifelong learning and distance higher education, the body of research on these areas has grown, yielding very important findings for policy-makers. This body continues to expand, as it must if the field is to flourish and grow and higher education is to play its full part in creating a true learning world.

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CHAPTER 2

LIFELONG LEARNING FOR EQUITY AND SOCIAL COHESION: A NEW CHALLENGE FOR HIGHER EDUCATION

Suzy Halimi

CHAPTER SUMMARY

At the start of the twenty-first century, lifelong learning is regarded as a necessity, and national governments make it a political priority, at least in most of the industrialised countries. Globalisation and the international competition that goes with it; the swift evolution of knowledge and its swifter diffusion through the dizzying development of information and communication technology (ICT); modern aspirations towards a better quality of life for human beings – all of these are features of our contemporary situation that make lifelong learning a requirement – indeed, a necessity.

This involves meeting the needs of adults – not the traditional clientele, and until now under-represented in higher education. This clientele suffers from three handicaps: economic (in the case of those who need to find a place in the job market, in a lifetime), psychological (people who are shy of the school system: many will have left it after failing in some way, and may not relish the prospect of applying for more teaching), and, finally, academic, since they do not have the normal qualifications for access to higher education.

This is the challenge which higher education has to meet in opening its doors to this clientele: a teaching challenge, to be ready to listen to learners and offer them individualised courses; an organisational challenge, demanding changes in the way space, time and human resources are managed so as to suit the needs of learners with particular constraints and expectations; and the ethical challenge of providing this "fragile" clientele with high-quality learning and qualifications that are as well recognised as those of conventional education. Such difficulties can only be overcome by partnerships that enable all the parties concerned to pool their resources so as to achieve the objectives by joint action.

INTRODUCTION

In his 1996 report to UNESCO, Jacques Delors championed "Learning throughout life" as "the heartbeat of society […] one of the keys to meeting the challenges of the twenty-first century." (Delors, 1996). In the decade since then, intergovernmental organisations have all taken notice of this issue, consulting experts, organising debates and seminars, gathering examples of good practice, and drafting reports addressed to the parties concerned, including political decision-makers.

The European Commission declared 1996 as the Year of Lifelong Learning, and has since then continued to conduct surveys and studies. In 2000 it published a Communication containing six "key messages" to facilitate the practical implementation of its recommendations. It completed all this with a first review in 2003. The OECD, which pioneered this field in 1973 with the publication of a study entitled *Recurrent Education: A Strategy for Lifelong Learning*, continues to reflect on the best way, in terms of its own purposes, of investing in "human capital", to use a term that features in the OECD's *Education Policy Analysis (1997)*. The Council of Europe, whose ideology is mainly concerned with the defence of human rights and equal opportunities, has conducted over four years a programme of work on the subject of *Lifelong Learning for Equity and Social Cohesion*, which we have taken as the title for the present chapter (Council of Europe, 2001).

Such preoccupations of course reflect those of the member governments of these organisations. They are concerned about what they see as one of the major challenges of our age and of our "knowledge society", in which knowledge has become an economic issue, as well as a factor in combating exclusion, and one of the keys to a better quality of life. Parliaments and educators have the task of finding ways to turn words into action and to give everyone who wants it the opportunity for self-education throughout life.

The task is not an easy one: the situation is complex, as shown, indeed, by the evolution of the terminology. Thus in addition to "continuous or ongoing training", which emphasise vocational training and the upgrading of employable skills, we now have "lifelong learning", a much broader concept, when we recall the four objectives Jacques Delors assigned to education: learning to do, learning to be, learning to learn, and learning to live together (Delors, 1996). As for the expression "lifelong", it recalls Lord Beveridge's grand design as he prepared the United Kingdom's Welfare State at the end of the Second World War, proposing that it should look after its people from one end of their lives to the other, "from the cradle to the grave".

Today there is another change, as "education" gives way to "learning", the former indicating a process established (and therefore, perhaps, imposed) by society, the latter involving rather the voluntary acts of individuals who want to acquire knowledge at their own pace and in their own way, for purposes of their own, which may not necessarily be the same as their neighbour's or those of the whole community. This is why we have chosen "Lifelong Learning for Equity and Social Cohesion" as the title for this chapter. We shall tackle the issue under three headings: "A new context", "A new clientele", and "A new challenge for higher education".

A NEW CONTEXT

The changing and proliferating meanings associated with "lifelong learning" reflect the various facets of the problem, themselves connected with the manifold requirements of our knowledge society. To emphasise one particular aspect or another will give this concept

a particular colouring, and offer a particular "model"; but these models are all mutually complementary, and will vary from one situation to another.

The scientific and technological background plays a supremely important role. The twenty-first century has been called the "Century of Grey Matter", meaning the intellect, which constitutes a new source of wealth for our planet. Science is making spectacular progress, from the infinitely great to the infinitely small. Astronomers send their probes to the edges of our galaxy, while nanotechnology unravels the mysteries of a world invisible to the naked eye. Biology is now mastering cloning and other secrets of human life. Though there are still scourges such as AIDS to be conquered, medicine has succeeded in increasing life expectancy.

These heady developments are instantly recognised, communicated, explained and exploited all over the world in real time, thanks to another development no less spectacular, that of information and communication technology (ICT). This is proving a valuable tool for diffusing knowledge, though much remains to be done if we are to remedy the digital divide between those who can and those who cannot master such technology.

Acquiring knowledge, making it available to as many as possible, keeping up to date with progress in each field of competence, is becoming essential both for individuals and for states that are making research — the creation of new knowledge — one of their political priorities. As the process unfolds over the long term, it clearly falls to lifelong learning to give everyone the opportunity of thinking about the gaps in their understanding ("learning to learn", as Jacques Delors says), and filling them in so as to keep up with progress. Already two missions, two "models", begin to emerge: a "reflective learning" model and a "compensatory" model, to use the classification introduced by Christopher McIntosh in Chapter 1 of this book.

The economic background cannot be separated from the scientific and technological one. Knowledge obviously feeds innovation; it is harnessed in the service of development, and in particular of wealth-generating economic development. Here globalisation, which is such a feature of our twenty-first century, is without any doubt a source of many blessings, such as international solidarity and the sharing of resources, as we have seen with the recent terrible events in South-East Asia; but it also gives rise to ferocious international competition. Terms like "centres of excellence", or "competitiveness", or "attraction" are already part of everyday speech. This is a race in which states know full well they need to equip themselves with the best skilled and qualified human resources possible.

For individuals, such incessant economic changes — there is already talk of the "liquid society" (Bauman 2000), meaning a society in constant flux — can be painful, involving company closures, dislocation and relocation, forced restructurings, and so on. It is now acknowledged that in the next ten years, even those who are lucky enough not to suffer unemployment will still have to face re-skilling and reorientation in order to find work. Diplomas and degrees gained between the ages of 18 and 25 will no longer be an employment passport for life. Employability is becoming a concern for everyone. The economy has its changing requirements, and those responsible for education are called on not to lose sight of the need to ensure that training stays in line with employment prospects. Lifelong learning must provide its learners with the tools necessary for "staying in the race": the quality of human capital depends on it, and here the "functionalist" model takes precedence over all others.

Lastly, our analysis of the situation must also take social and cultural factors into account. Leaving no-one by the side of the road if it can be helped; reducing inequalities; giving everybody a chance to learn and win a place in the sun: these things also work in favour of equity and social cohesion. This is the "model" which the Council of Europe has chosen to make its priority: opening the doors of higher education to people who have so far been under-represented there — women, ethnic and cultural minorities, the disabled, young and not-so-young people from underprivileged social backgrounds. It is the ideal of social justice and equal opportunity, without which it is not possible to live together in harmony.

Such learning has one last function, however; last, but by no means least. That is the "humanistic" model — still referring to the classification presented in the introductory chapter — which leads to a better quality of life, with no functional concerns of any kind. As life expectancy increases, there are more and more adults, whether still working or retired, going (or going back) to university to get further cultural education just for pleasure. Hence the growing popularity of the so-called "leisure universities", or call them what you will, offering courses and lectures on an immense variety of subjects to a new clientele eager for self-cultivation, wider horizons and knowledge, for the satisfaction they can bring.

A NEW CLIENTELE AND ITS REQUIREMENTS

To characterise the new clientele now knocking at the doors of universities in the name of lifelong learning, we shall be using the classification proposed by Ulrich Teichler[3]. This clientele can be divided into three categories: *postponers*, who could have had access to higher education at the end of their secondary education, but put it off for various personal or career reasons; *returners*, who have already benefited from it, and come back for a second slice of the cake, so to speak — either to upgrade their knowledge for the purposes of a better job or simply to enjoy cultural improvement for their own well-being; and lastly, *second chancers*, those who have not yet had an opportunity to benefit from academic learning, and who apply for or are offered another chance to do so. Most of these are from underprivileged groups that have so far been under-represented in higher education: members of ethnic and cultural minorities, less well-off social backgrounds, women with family commitments, disabled people, and the large numbers who left compulsory schooling without qualifications. This last category, the *second chancers*, is the one we are primarily dealing with here, since the others can easily find their way into universities when they want. But the third clientele is comparatively vulnerable, which makes it harder for them to participate in education, and makes their integration a challenge to be taken up every day.

First of all, these people suffer from economic weakness in one form or another. They may be unemployed or in jobs that bring in too little to support their needs and those of their family, and are looking for skills and qualifications that would enable them to get a more secure footing in the job market. Their expectations are high and specific; they need "learning to do" above all, but they also need "learning to learn", because their situation is sure to remain precarious and this will require a good deal of reorientation.

How are these less well-off clients to finance their studies? How can they pay the fees giving access to higher education? In their case society will have to step in to cover all or some of the costs of their studies. In some instances, the law provides for this: in France, employers must pay a proportion of their income (the "employer's one per cent") towards the ongoing training of their staff. This training may be provided within the firm, which can create its own campus by clearly defining its needs in order to increase the

level of knowledge and skills of its human capital. This is the pattern most often used by the most powerful businesses. However, employers can also use the services of higher education institutions, to which they address specific requests that efficiently target their own properly-identified needs. These in-service training departments then make efforts to design and introduce special courses to meet their particular requirements.

The United Kingdom also encourages firms which invest in their employees' training through its "Investors in People" programme. The training also, of course, enables the firms to become more competitive in the world market. As examples of good practice, we might also mention the European ADAPT programme, which supports a pattern of job rotation: while one member of staff (still on the payroll) has further training, an unemployed person is taken on to fill in the temporary vacancy, which in a way kills two birds with one stone, and helps two people at once. [4]

Other ways of helping this clientele can be imagined, of course. There is also much talk, here and there, of setting up "individual learning accounts" for each person, funded by the state (i.e. by the taxpayer), which individuals can use as they wish, at their own convenience, throughout their life if that is the best pattern. The idea is a simple one, but the way to apply it still needs mapping out.

Another obstacle to be overcome is the psychological frailty of these students who do not fit the conventional profile. The people concerned–the potential beneficiaries of the advantages which they are to be offered at such expense–need to be made aware of them, and to steel themselves to take up this right to lifelong learning. The Council of Europe has worked hard on this aspect of the matter, commissioning experts and psychologists to explain something that is certainly not proving the easiest problem to solve. [5]

Coming from underprivileged backgrounds which do not always recognise the worth of further training or education, and themselves living in precarious circumstances, they do not know their rights in this field, nor sometimes even their needs. To draw up formulas on their behalf is no doubt to act with good intentions, but it depersonalises them.

Moreover, it is generally observed that those who have left the school system because of a failure to meet the requirements are often reluctant to return. Moreover, it is hard for adults to find themselves sharing university classrooms with people young enough to be their children–this is another psychological hurdle. We can see that a whole series of obstacles will need removing if this potential clientele is to be given a second chance.

There is work being done on this; and there are already examples of good practice. The "skills review", which began in France back in 1985, gives employees a clearer idea of their individual aptitudes, personal and professional; in this process they are assisted by universities' in-service training departments which help them specify and formulate their requirements. Another instance is the project in the United Kingdom known as ADAPT-SES-NET, established in the south of Scotland, which aims to stimulate demand for lifelong learning.

Alongside this work, researchers are keen to spread understanding of learning's benefits for the individual, in terms of human success (understanding and know-how), personal identity (self-awareness, self-confidence, enhanced self-image) and social ease (improvements in group relationships). Such are the main conclusions of the work entitled *The Benefits of Learning* (Schuller et al., 2004).

Lastly, academic weakness: many lifelong learners do not have the prerequisite qualifications for entering higher education: secondary school certificate, a high-school

diploma or similar certificates of secondary education. They do, on the other hand, have a great deal of experience from their occupation, or simply from the school of life. Opening the doors of the university to them pre-supposes a solution to the problem of prerequisites.

This may be the point on which the most significant progress has already been achieved. The pioneering Open University has, since its foundation, admitted adult students without requiring the famous GCSE or formidable A-levels that bar the way to traditional universities. The experience has been entirely positive: all that proved necessary was to offer this clientele the opportunity of bringing themselves to the point where they could profitably follow the higher-level courses, by means of remedial classes to fill the gaps.

A NEW CHALLENGE FOR HIGHER EDUCATION

Once the problem of access has been dealt with, by giving applicants credit for their prior learning experience and/or remedial or supplementary courses, many adjustments are still needed to make room for the adult lifelong learning clientele in institutions of higher education. The needed adjustments are at four main levels: teaching, governance, partnerships and ethics.

The challenge of teaching is the first hurdle. For all the reasons mentioned above, this new clientele needs personalised attention: standard teaching tailored to the greatest number will not do, and courses must be made more variable to meet the specific needs of people who are already engaged in active life, or need to be. This is where the notion of the "customised curriculum" comes into its own, as shown by Sweden, for example, in its 1997 – 2002 Adult Education Initiative programme (AEI): it was an experiment whose form and content were designed in accordance with the needs, wishes and aptitudes of learners who were treated as unique individuals in every case.

The reorganisation of teaching into semesters and accumulation credits, currently in progress throughout Europe under the Bologna process, is particularly well suited to managing the constraints of families or careers. Students choose their own pattern of attendance, and new patterns of teaching make far better provision for this than in the past.[6] This overhaul of teaching is helped by using new ICTs. Not only do they make it possible for students to work off-campus if attendance is impossible or off-putting for any of a variety of psychological reasons; they also give students the opportunity of being taught at home or at the workplace, or just nearby — and of studying when it suits them, during their leisure hours. This is a quiet but far-reaching revolution, greatly assisted by civil society, including employers and local authorities, providing the Internet access points needed to make ICTs available to those who need them. We shall return to this shortly.

Teachers still have to offer the course online: and that is not an easy task for them. It involves a new learning experience, one made necessary by the use of technology. They are used to their role as teacher/researcher, creating and then disseminating new knowledge: now they find their profession is moving on. With such a mass of information accessible on the Web, they have to acquire a new skill, that of guiding students to learn how to learn – which now means finding their way with a well-advised eye through this proliferating mass, using it with care, and keeping a critical distance.

Teachers, originally the primary source of information for their pupils, now find their monopoly has gone: they are sharing this position with others, whose approach and interpretation may not be the same as theirs. To acknowledge the fact is a lesson in

humility: coming to admit that nobody nowadays can master this rapidly-evolving sum of knowledge single-handed. It is also necessary to depend on the services of the technician who puts the course online, for this is not necessarily one of the academic's skills. All this leads to a degree of confusion reflected, according to Nicholas Corder, in an uncertainty over what to call this new profession of "adult educator":

> "Teacher" makes you sound like a school teacher, "Tutor" smacks of Oxbridge colleges, "Trainer" sounds like a soccer coach. "Lecturer" implies that all you're going to do is lecture. I dislike the word 'Instructor' even more — flat-pack furniture has "instructions". My pet hate is the word "Facilitator" because it is so ugly, even if it is a useful idea. "Educator" sounds pompous (Corder, 2002, quoted from a review by Carmel Dennison in the online journal *Widening Participation*, Vol. 6, No.1, April 2004).

This confusion is all the greater because teachers can see that the process is complex and many-sided. The models we looked at earlier — utilitarian, humanist, compensatory — are not mutually exclusive but complementary, and teachers who want to be effective must take this into account if they are to respond to all their students' needs.

A similar effort is also needed for governance, or the management of higher education institutions. They will have to revise their accustomed use of available space and time, in order to adapt to these new clients. When they come to the campus — for it is a good idea to combine distance teaching with blocks of attendance in person — this has to be organised taking their personal and professional obligations into account, by means of evening and weekend classes, crash courses, holiday sessions, etc. Teaching hours and the use of teaching rooms become flexible in order to accommodate the needs of students rather than the wishes of teachers, who have to adjust to these new constraints.

As a logical and necessary consequence, the administrative departments and their staff are called on in turn to make their offices, libraries, information and counselling services open and accessible, for these cannot be closed when the clientele needs them. One can understand what a revolution in the management of premises and human resources all this can involve for institutions and their senior managements, which do not always have much room for manoeuvre in these areas, especially in periods of restructuring and budget cuts.

It is necessary, therefore, to turn to partnerships that can contribute to the common effort. We have already pointed out, in discussing the last point, that higher education cannot meet the challenge of lifelong learning on its own. The notion of partnership is at the heart of the new process: partnership with political decision-makers who define the objectives, with parliamentarians who cast these in legally binding form; partnership with business and the world of work, for this is the source of the motivation behind the demand for learning, and of financial contributions to the training of human resources, present or future; and partnership with the local authorities which put resources into defining local employment needs and setting up learning centres. The Queensland state government in Australia, for instance, has managed to facilitate access to higher education for isolated communities by supporting local authorities in actions of this kind. Finally, there should be partnerships within the institutions themselves, between members of the administrative and teaching staffs who need to combine their skills if they are to meet the needs of these non traditional students. As Adam Smith (*The Wealth of Nations*, 1776) recommended, the division of labour is a sure way to efficiency; and popular wisdom recognises that "unity is strength".

Taking up all these challenges in the learners' best interests is in itself a moral issue for the institutions that start along this path; but they very quickly discover the full ethical

force of the undertaking. Here again, the Council of Europe has studied this particular point in depth, as its very vocation requires, and has made recommendations, for instance, concerning the need for quality.

The Council of Europe has pointed out that even in those establishments most disposed to foster lifelong learning, the departments which deal with it remain "minor" or even marginalised by comparison with conventional education; and it has put forward two proposals to ensure that this marginal status does not imply "learning on the cheap": first, the university's teaching body must be involved, to the greatest possible extent and at the highest level, in this branch of activities; and, second, there must be no issuing of ad hoc in-service training diplomas that have no place among the rigorously named forms of certification that are recognised in the labour market. For this reason it would be good if eventually — and indeed as soon as possible — the lifelong learning clientele could join the mainstream, so far as the attribution and recognition of academic qualifications were concerned. This would help to avoid the danger of a two-tier university with different requirements for two types of learners (Council of Europe, 2000).

This need for quality is all the more essential when it comes to distance teaching. Those offering their teaching services — institutions and individuals — must be properly identified; they must provide some guarantee of the quality of the teaching they offer; but who is going to audit this, and by what standards? This is a particularly thorny problem, all the trickier since the clients involved are relatively fragile — are made fragile by the circumstances of their studying — and since they are being called on to pay for their teaching. Lifelong learning begins to look more and more like a market ripe for plucking; and a great deal of vigilance is needed to sift the good seed from the tares, true provision from the meretricious allurements of dubious value. The fourth issue of "Lifelong Learning in Europe" (2004) is devoted to precisely this problem, under the title "Ethics and the Lifelong Learning Market". In the absence of international legislation, the major intergovernmental organisations — the Council of Europe, the European Union, and UNESCO — are producing a wealth of recommendations and codes of good practice, so that all knowledge providers are aware of their responsibilities, and respect and apply the ethical rules concerning quality requirements.[7]

CONCLUSION

Lifelong learning presents higher education with a new challenge. It has already met many others, not least the challenge of mass university undergraduate provision: we should recognise that it has indeed tackled this. With success the university has proved it is no brittle, tradition-bound institution, but dynamic, open to progress, capable of showing flexibility in adapting to the requirements of a globalised, constantly-evolving world.

Lifelong learning, the indispensable key to the twenty-first century, now requires universities to radically review their structures, modes of functioning, and attitudes. The challenge is no less than that of modernity itself. We may be confident that they will take up that challenge with the same steady energy and the same determination to serve the interests of learners above all else. "Where there's a will, there's a way": this is what it takes to build a Knowledge Society that can really contribute to sustainable development and social cohesion.

POLICY CONSIDERATIONS

- ***Many states have developed policies designed to encourage firms, or even compel them, to finance their employees' lifelong learning.*** One such programme is the United Kingdom's "Investors in People"; another, the "Employer's one per cent" enshrined in French law, which obliges firms to devote one per cent of their budgets to staff training, at the request of the employees.

- ***Individual Learning Accounts:*** an interesting idea, in which the State allows each individual an overall sum for his/her adult education, to be used as the individual thinks fit in view of his/her own needs and opportunities: either at the start of working life or later on, and either all at once or in instalments. Individuals would thus be in control of their own lifelong learning plans. The idea is attractive, and appears simple; but if such a scheme is adopted, is certainly not easy to solve the problems of managing it.

- ***The accommodation of an adult clientele with timetable constraints and limited availability means that the university needs to adapt to their requirements:*** lectures need to be organised and rooms made available outside normal hours; the workload and arrangements for teachers who work in these areas need to be revised; libraries and administrative offices need to be accessible outside the opening hours for traditional students; and so on. Are we perhaps moving towards a round-the-clock university? This brings us back once more to the problem of human and operational resources.

- ***Partnership and the sharing of resources are becoming a necessity for lifelong learning:*** parliaments set political objectives and provide for administrative arrangements; institutions construct their "on demand" range of courses to accommodate learners' needs, and issue qualifications; businesses specify their needs and make their financial contributions; and local authorities provide knowledge about their regions' job market, and arrange for educational venues such as Internet access points, so as to ensure that everyone can access the technology required for distance learning; and so on. This is a division of labour made necessary by the complexity of the issues faced nowadays.

- ***The need for quality is fundamental, if lifelong learning is not to be a second-rate or even marginal sector within higher education, to avoid the two-tier university and certifications that are less recognised in the labour market than others:*** involving the institution's most skilled teachers in lifelong learning; bringing the two types of clientele, undergraduates and adult learners, as close as possible; avoiding "one-off" certificates with no recognition among properly-designated official degrees; and ensuring strict quality assurance measures of all online teaching, whether national or international. Right now, UNESCO and OECD are working together to prepare Guidelines on "Quality Provision in Cross-border Higher Education".

RELEVANT INTERNET SITES

UNESCO Task Force on Education for the Twenty-first Century
www.unesco.org/delors/
The aim of this website is to further debate and reflection on the ideas expressed in Learning: the Treasure Within, the report to UNESCO of the International Commission on Education for the Twenty-first Century. Simply speaking, the Commission felt that education throughout life is based upon four pillars: learning to know, learning to do, learning to live together and learning to be.

European Commission — Lifelong Learning
http://europa.eu.int/comm/education/policies/lll/lll_en.html
At the Lisbon European Council in March 2000, government leaders set the EU a 10-year mission to become the most competitive and dynamic knowledge-based economy in the world, capable of sustained economic growth with more and better jobs and greater social cohesion. Lifelong learning is a core element of this strategy, central not only to competitiveness and employability but also to social inclusion, active citizenship and personal development. This site provides documentation and links to further information in this area by the European Commission

OECD — Lifelong Learning and Sectors of Education
www.oecd.org/department/0,2688,en_2649_34509_1_1_1_1_1,00.html
Lifelong learning for all is the guiding framework for OECD's work on learning, both formal and informal. Systemic considerations include foundations; outcomes; access and equity; resources; pathways; visibility and recognition; and policy co-ordination. This site provides further information in this area by the OECD.

Council of Europe – Lifelong Learning for Equity and Social Cohesion
www.coe.int/T/DG4/HigherEducation/CompletedActivities/LLLEquity_EN.asp
The project pursued political aims in a crucially important field for the future of the academic community in Europe: the challenge of lifelong learning, in line with the priorities defined by the Second Summit of Heads of State and Government of the Council of Europe in October 1997, which called for a "new strategy of social cohesion" within the framework of democratic security. The specific role of higher education in this strategy is to combat exclusion and marginalisation by ensuring equality of opportunity in education and meeting the new demands raised by society following the profound political, economic and social transformations which have taken place in Europe. This site provides further information in this area by the Council of Europe.

The Open University, UK
www.open.ac.uk/
The Open University is open to people, places, methods and ideas. It promotes educational opportunity and social justice by providing high-quality university education to all who wish to realise their ambitions and fulfil their potential. Through academic research, pedagogic innovation and collaborative partnership it seeks to be a world leader in the design, content and delivery of supported open and distance learning. This site provides further information on the OU and its programmes.

ECTS - European Credit Transfer System
http://europa.eu.int/comm/education/programmes/socrates/ects_en.html
The European Credit Transfer and Accumulation System is a student-centred system based on the student workload required to achieve the objectives of a programme, objectives preferably specified in terms of the learning outcomes and competences to be acquired. This site provides further information on this topic.

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Notes

1. This phrasing has been used as the title for this chapter, since its author was the co-ordinator for this work in the Council of Europe from 1997 to 2001, when the summary was prepared at an international symposium organised at the Sorbonne, in November 2001.

2. The analysis which follows, and the examples cited, mainly concern the "Europe region" as defined by UNESCO. In the developing countries outside Europe, these issues are emerging as the subject of debate and political decision-making, albeit unevenly as yet.

3. Ulrich Teichler is a Professor at the university of Kassel in Germany, and Director of its Centre for Research on Higher Education and Work.

4. ADAPT.

5. Danguile Beresneviciene: 'The Scope and Role of New Information Technologies in Lifelong Learning: some Psychological Aspects', Council of Europe, *Lifelong Learning for Equity and Social Cohesion*, The New Information and Communication Technologies in Lifelong Learning, 2000, 93-107.

6. The Bologna process, initiated by European ministers of higher education following the 1998 Sorbonne Declaration, aims to create a "European Higher Education and Research Area", within which student mobility and the recognition of academic qualifications will be facilitated by a harmonisation of courses at three levels: Bachelor, Masters, Ph.D, by dividing the academic year into two semesters and by awarding credits which can be accumulated, the European Credit Transfer System (ECTS). One year is equivalent to sixty ECTs. This process should be complete by 2010, in accordance with the Declaration of Bologna (19 June 1999).

7. As this book goes to press, the UNESCO and OECD are working on developing "Guidelines on quality provision in cross-border higher education".

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CHAPTER 3

THE IMPACT OF ICT ON LIFELONG LEARNING

Mary Thorpe

CHAPTER SUMMARY

Information and communication technologies (ICTs) have been an integral element in the growth of diverse forms of open, online and distance education, which over the last 40 years, have brought new opportunities for lifelong learning in many countries. Delivery of resources, however, does not guarantee learning, even when the initial barriers of access have been overcome. Where the media in use are unfamiliar, even stronger incentives are required for learners to engage effectively. In the case of the UK Open University, assessment plays a strong role in focusing learner attention on opportunities such as Internet resources and computer conferencing. What is also clear is that the effectiveness of ICT depends on course designers and authors understanding what it can deliver and having resources to ensure that a high quality experience is on offer to the learner. Poor take-up may often reflect an inappropriate or low quality offering, rather than a rejection of technology per se. Examples of successful use can demonstrate what is achievable and the potential of ICT to transform learner experience and capabilities. Individual teachers are unlikely to be able to achieve at this level, without an institutional context that incorporates resources, training and appropriate policies for both learner support and materials development.

INTRODUCTION

The impact of ICT on learning is currently discussed almost entirely in relation to use of digital media, primarily the World Wide Web. However, ICT impacted on higher education before the widespread use of the Internet. Through the application of print, audio-visual and broadcast media to distance education, it has enabled those with adult roles and responsibilities to continue formal study leading to higher education qualifications on a mass scale. The practice of lifelong learning itself has been facilitated by the demonstrable fact of thousands (now millions worldwide) of adults studying beyond school age using a range of media, and pursuing both occupational and leisure

goals (Daniel, 1996). Lifelong learning has been an inspirational concept for decades, receiving attention now for a variety of economic and social development reasons. In practice, it is dominated by provision of learning opportunities for adults and research into the effects and significance of learning beyond formal schooling. Nevertheless, we should not lose sight of the lifelong trajectory and Dave's 1976 definition provides a succinct reminder of that, directly relevant to the substance of this chapter; he defines lifelong learning as:

"A process of accomplishing personal, social and professional development throughout the life-span of individuals in order to enhance the quality of life of both individuals and their collectives." (Dave, 1976, quoted in Rausch, 2003)

Since the mid-1990s, the Open University UK has adopted a strategy of investment in digital media, building on early use of the Internet for computer mediated communication, on a large scale from 1988 (Mason and Kaye, 1989). These early applications showed that use of e-mail and conferencing could revolutionise the potential of distance teaching by opening up communication across the student body, as well as between the tutor, course team and students. They also showed that impact on students was very varied, typically leaving one third who hardly ever participated, one third who did so to an acceptable level, and one third who became enthusiasts and participated well beyond the requirement set down by the course team.

Summarising the promise of the "new media" – taking these to include CD-ROM and now DVD-ROM as well as the Web and applications such as streaming audio[1], video and mobile devices – commentators have typically identified the following advantages:

- A sense of presence, possibly even community, in online interaction
- Improved learner support
- Unlimited practice of difficult concepts, skills etc.
- Unlimited access to resources via the Internet
- Improved delivery of learner preferences – notably those required by students with disabilities
- Global access to resources and teaching
- Learning anywhere, any time

What we now have is accumulated experience over more than a decade of large-scale use at the Open University and elsewhere that demonstrates three major themes. The first is that the impact of the new media is uneven, whether resulting from differences between learners, the context in which learners are studying, or the nature of the subject being learned. The second is that the promise of the new media is just that – a promise or potential that can only be realised through skilled and creative design and teaching, on the part of both the local tutor and the course team. The third is that lack of success in use of ICT may result as much from cultural differences in how people expect to learn, as from any feature of the new media themselves.

UNEVEN IMPACT: THE INFLUENCE OF CONTEXT

Prior to the widespread use of the Web, print was the main medium for teaching in distance education and many lifelong learning opportunities. Great ingenuity and specialist expertise has developed in using print, with both teachers and taught having shared an intuitive understanding of how print can be made to work effectively for

teaching and learning. Comparable shared understanding of how best to use e-learning has not yet developed, where e-learning refers to electronic delivery of resources and communication, both on and offline. While print is still the main carrier of teaching material at the Open University, all courses use Web sites and e-mail for some aspects of communication and teaching, most use digital resources and some are delivered and supported entirely online.

However, student evaluation shows a wide range of take-up and appreciation of the new media of conferencing, e-mail, Web sites and electronic resources via library databases and the Internet. An annual survey of new and other courses shows that OU students in different faculties experience more or less use of these media in their courses, and vary in the degree to which they find them helpful. Science courses, for example, have always made good use of software supplied on CD and now DVDs, and over 40 per cent of their students rated such materials as very helpful in the 2003 survey. Science students, however, gave very low helpfulness ratings to audio CD whereas almost 60 per cent of language students rated them as very helpful, as did over 40 per cent in health and social care, arts and education – all faculties making effective use of audio for course-related teaching (see Rae, 2004 for elaboration of these findings).

Course Web sites are also used to access electronic resources, with growing use by course teams instead of print versions. Whereas only about 5 per cent of arts undergraduate students found these very helpful, 60 per cent of arts postgraduate students did so, reflecting the importance of key online collections for postgraduate research. Researchers have pursued this in relation to the effectiveness of Web sites, and identify usability as a key factor. However, usability is a multifaceted issue, originating in the human-computer interaction literature, but inseparable from pedagogy where the context is use of Web sites for learning. Preece has defined it thus: 'software with good usability....is consistent, controllable, and predictable, making it pleasant and effective to use' (Preece, 2000: 27). However, students may still not use even well-designed sites, if they are pressed for time and the core of the teaching material is provided elsewhere. Pedagogical usability needs to be part of the design from the beginning, and content experts need to work alongside designers to ensure that the Web site is integrated into the teaching design as a whole. (Kukulska-Hulme and Shield, 2004).

One of the most important aspects of any teaching design is assessment, and students can be made to engage with conferencing, or CD-ROM resources, by incorporating such activities into the marking scheme of assignments. Students who do not participate will thus lose marks. Students themselves have demanded such an approach, arguing that if the course team says it is so important to spend study time on these activities, they should incorporate them into the assessment of the course. However, it is still a challenge to create a course design that really works. Macdonald and Twining (2002) for example, describe a course that used activities to lead students' learning, including conferencing, Internet searching and hands on use of Hypernote for constructing a knowledge map. The course, "Learning Matters: Challenges of the Information Age" was delivered to students in UK, Europe and Singapore, as part of degree studies. The course was designed to encourage students to be active learners, and to learn more by reflecting on their own experience of learning tasks set by the course, than by attending to the transmission of information in course texts.

Evaluation of the student response demonstrated areas where the course design could have been improved. A collaborative conferencing exercise had only limited success for example, because it was scheduled between two assignments that were close in time, so that many students ignored it in favour of doing their assignment. About half the tutors

reported that group activity had reduced steadily since course start, and only some tutors engaged in the kind of active facilitation of conferencing, that ensured their students did participate. Such tutors e-mailed individual students to encourage them, logged on regularly themselves and ensured that group composition was working (Macdonald and Twining, 2002: 610).

In another area, the development of skills using a hypermedia authoring tool was partially successful, but could have been improved had it been integrated into more than one assignment, giving students several opportunities for feedback. Most students did not use effectively the graded activities designed to help them learn how to use the software, and only got to grips with it properly when completing the last assignment. This assignment required them to use the authoring tool to write a hypertext essay, as an exercise in exploring course concepts and making them explicit. After the assignment, around two thirds of students said they felt confident in using the tool, but tutors reported that many assignments used a linear approach and showed little use of the divergent possibilities of hypertext. What students needed was a more incremental approach to the development of skills, fostered by spreading the activity across more than one assignment (Macdonald and Twining, op cit, p. 615).

REALISING THE PROMISE:
DEVELOPING NEW SKILLS AND EXPERTISE

The introduction of new media requires in effect, a complete rethink and redesign of teaching systems and staff skills. However, deep institutional change rarely occurs overnight, and as a result, the success of early attempts to use new media has been patchy, in terms of student usage and feedback. Students may be unenthusiastic however because of poor implementation rather than intrinsic qualities of the media. Furthermore, each course has different opportunities arising from the nature of the discipline and the learning goals set for students.

Some courses positively require to be taught using the Web, and it becomes feasible for a strong case to be made to students that participation online is essential. One such course is "The Environmental Web"[2], an advanced undergraduate course about environmental issues and the skills required in becoming an environmental scientist. This is a field where international experts and academics use the Web extensively for research. The course design uses web-based activities to lead student learning, and requires around half the study time to be at the computer screen. Activities create graded exercises in searching, evaluating and using web resources, carrying out measurements and analyses, and uploading assignments to Web pages. Students are explicitly warned that extensive study at the computer is required, and from the beginning, they have to interact online with their tutor group in order to carry out some aspects of their assignments.

Student and tutor feedback shows an enthusiastic response to this approach, and the course has very high retention rates. Seventy-seven per cent of all students who start the course achieve a credit, compared with the average across all Science courses of 60 per cent. Students feel in touch with contemporary science and activities that are happening during their period of study. In their first few weeks of study for example, they take on the role of a representative of one of the members of the Association of Small Island States (AOSIS), finding data about 'their' island and negotiating within their group about how best to represent their interests at the UN. As the 2005 cohort begin their studies, they will undoubtedly experience the immediacy of these concerns, and the relevance of their course, in reflecting on the impact of the Tsunami that devastated so many Indian Ocean islands on 26 December 2004.

The only face-to-face tuition for the course is a day school which is scheduled several weeks after the start of the course, and after students have 'met' each other online, through their AOSIS role play in groups moderated by their tutor. Tutors nevertheless feel that they can often support students more effectively than previously, through being in touch week by week, and able to contact individuals very easily by means of e-mail.

While there is much praise from both students and tutors for this course and its approach, not all students are equally enthusiastic. Many find it time consuming. In spite of the extensive guidance provided, and the graded introduction to Internet searching, students still find that it takes them longer than they expect to find exactly what they are looking for. Also the course, as with many others that build in conferencing to achievement of learning outcomes, requires students to participate at particular points in time. The much acclaimed flexibility of 'traditional' distance teaching is reduced by this approach, as earlier studies have shown (Thorpe, 1998). On one hand, the learning advantages of participating in online debates and consensus reaching are achieved, while on the other, students (some at least) find it difficult to commit themselves to participate during the window of time when such activities are scheduled. While dialogue is asynchronous, the activity overall has to be time limited, and some students find that work and other pressures make it difficult to find time during those specific weeks. If they miss it, they cannot catch it up later, and may even have to lose marks since participation is built into the assignment and a proportion of marks awarded for taking part effectively. This strategy has the positive benefit of rewarding students for an activity that develops their skills and understanding of the issues of environmental science, and the disadvantages are of course unintended effects which impact on some students more than others.

CULTURAL EXPECTATIONS AND PREFERENCES

Use of the Internet has enabled institutions to register learners wherever they are based. However, technical accessibility may reveal more subtle cultural barriers against participation. When the Open University sought to open its courses to US students, it had to break down long courses into shorter modules, fitting with the US semester system, and also with the concept of regular instructional activity led by a tutor, on a weekly basis. Course materials may also include content that is too culturally specific, or even offensive in some contexts. Yet here technology may help with the challenge. Digitally stored course materials can be edited, inappropriate sections cut and new material added to suit the new context. This process is facilitated by the use of content management systems and course designs based on reusable learning objects. While definitions of a learning object vary (Mackintosh et al, 2005), the core idea is to construct material which is organised into defined chunks which make sense in their own right. Chunks can be selected and used again in new combinations with new material and connecting strategies. This requires course teams to rethink how best to provide an integrated experience for learners, and detailed negotiations may also be necessary to ensure that diverse cultural expectations can be accommodated (Thorpe et al, 2003).

However, even where national boundaries are not in play, learner preferences can have a negative impact. Business students, for example, have often been unenthusiastic about computer conferencing. Their feedback emphasises that they study with strong vocational goals in mind, and in some cases, do not want to study via a computer screen having been at work all day, using a computer. They and other students are also experienced in fitting study around other tasks, at times and places where access to a computer is not feasible – while commuting for instance. Courses which absolutely have to be done at the computer screen, are thus reintroducing a potential barrier for these students – until such time as mobile technology produces a solution even for this challenge.

NEW AREAS FOR DISTANCE EDUCATION: WORK-RELATED LEARNING

The OU is now seeing the development of new capabilities in what it can do, arising from use of digital media. Whereas the list of potential advantages can be envisaged as making more effective the existing model of distance teaching – or supported open learning as the OU prefers to call its model – we are now seeing radically new kinds of teaching emerge, particularly in work-related learning and skills development.

While OU students have always studied for a mixture of motives, including relevance of study to the student's job or career aspirations, since the 1990s, qualifications linked with professional accreditation and on-the-job development have been offered. These have been very much enabled by the feasibility of using computer mediated communication. Leach, for example, describes two programmes that developed very effective online learning communities for teachers involved in rather different work-related learning (Leach, 2002). The first was a pre-service teacher education programme leading to the award of a graduate teacher qualification, the Post Graduate Certificate of Education. The second was a continuing professional development programme for serving teachers and librarians, aimed at use of ICT for subject teaching, from primary through secondary levels. Participants on the second, The Learning Schools Programme (www.lsp.open. asc.uk) developed an action plan for their use of ICT in their chosen subject, and worked through self-assessment for the award of a certificate of completion.

Although both these programmes were different in terms of target audience, goals and mode of assessment, they used conferencing in similar ways, to provide an online support community, to stimulate discussion of resources provided elsewhere and to make links between the existing professional world of schools and education, and students' professional colleagues and community online. Such goals are now quite common in online study programmes, but the high usage and traffic levels of both programmes are evidence that very lively online discussions were achieved. During its first three years (2000-2003), the Learning Schools Programme achieved monthly traffic of around 10,000 users, with over 100,000 school professionals involved, crossing both sectors and all subjects.

While such developments are not entirely the product of ICT, enhanced communications and the immediacy and resource-rich features of Internet usage, enable the University to teach and assess professional skills, where dialogue between students and experts is particularly important and up-to-date content relevant to the cultural context is vital. The OU has developed a national reputation for its teacher training, and demonstrated that it offers some advantages even over campus-based approaches. Students share experiences during their study of the theory of their profession, and can bring theory and practice together in ways that start to break down the unhelpful divide between the two.

Most students have to learn how to use communication software and in the case of the OU, FirstClass has been the software most often used, not least because of its ability to support such large-scale usage. We now have over 200,000 students annually logging onto our systems and using them for all forms of study and assessment. In order to pass their course, most students therefore develop their ICT skills. However, explicit teaching in how to use the Internet is a mandatory element in most degree programmes, and some courses have achieved great success in this area.

CONCLUSION

One of the themes of distance education journals in the last two decades has been the idea that campus-based and distance education provision was converging. ICT has been a driver for that debate. Where courses are delivered wholly online, new forms of interaction and collaboration are developing (Thorpe, 2002). One impact of the ease of communication enabled by e-mail and conferencing is that tutors and students are in more frequent contact and teaching is more continuous than in second generation distance teaching, with tutors logging on every few days, if not daily in some cases. They may indeed be more frequently in touch than are campus-based students with their tutor. What we are seeing in other words, is not the replication in a virtual context, of a model of campus-based teaching that dominated higher education for centuries, but the emergence of new forms, opening new opportunities. Although our focus here is on distance education and lifelong learning, these opportunities are there for campus-based higher education too.

It is always difficult to claim that practices are being revolutionised in education – how different does something have to be in order to count as a revolution? Without doubt though, we are seeing systematic evolutionary change in how we teach and learn, bringing positive advantages to distance education if we are willing to invest in the development and continual improvement of effective applications of ICT. Much hinges on that condition, as many who have been frustrated and disappointed by their experience of online learning will know. Technology offers us a great expansion in the possibilities for communication. It is up to us to turn those possibilities into reality, and in so doing, to create new opportunities for lifelong learners.

POLICY CONSIDERATIONS

This discussion of ICT usage for courses studied by adult learners, has touched on a number of policy issues. These are drawn together here and elaborated.

- ***The impact of ICT goes wider than just the structure and presentation of courses – teacher roles, course design, support systems and the curriculum require development as a result.***

  The use of the Web for both delivery and communication with students is impacting on the roles and workload of both course teams and tutors. Courses are being produced more quickly, within a two-year period and under, but updating is required every year and academic input is spread more evenly across the course life. Course teams also use conferences to maintain regular contact with tutors, and can respond to their views of the course more readily. The boundary between course teaching and learner support is breaking down, and electronic communication is enabling new forms of online teaching to emerge (Thorpe, 2002). Introductory courses in ICT skills are being developed, and all degree programmes need to build in ICT skills to student learning outcomes.

- ***Institutions require a framework within which strategic decisions about use of ICT can be made: institutional strategies for learning and teaching are one way of achieving this.***

  Use of new technologies has wide ranging impacts on institutions, and individual teachers are unlikely to be able to reap their benefits unless the institution as a whole invests in new infrastructure and develops staff, both technical and administrative. The Open University's strategy for learning and teaching has set

targets systematically for the use of ICT and this has ensured that all course teams have to address the issue and cannot simply leave it to more adventurous colleagues. Learner support has also been made available online as well as via the telephone, and there are now extensive resources provided for course choice, study skills, computer use and vocational guidance via the OU Web site (www.open.ac.uk/studenthome/experience/index.shtm).

- ***Staff using ICT need support to develop their skills on a continuing basis; access to information and staff development must be provided.***

  Associate Lecturers, who tutor OU courses, have participated in regionally based training in using ICT, and have access to Tutorhome, a site providing extensive resources and guides for all aspects of their role. The Institute of Educational Technology has developed the Knowledge Network, which provides both access to research and evaluation carried out on all OU courses and teaching methods, and support for academic staff wanting to find colleagues with relevant expertise (www.kn.open.ac.uk/). Regular workshops create a social context for this sharing of good practice.

- ***Use of ICT for teaching must address issues of access to the technology constructively***

  The UK is fortunate to be able to resource many public sites for access to the Internet and a personal computer, such as schools and libraries. Personal ownership is also high – among OU students in 2003 for all except language students, 90 per cent or over had access to a computer. However, of greater relevance now, is the need to match the kinds of usage of computers to the kinds of machine and personal skills possessed by students. Technology does also offer new possibilities for access to learning for those with special needs. Standards are now in place that software developers need to use so that their sites and resources are as accessible as possible (Cooper, 2003).

- ***Evaluation of students' response to use of electronic resources and computer mediated communication is essential, with continual updating and refinement built-in to the teaching process on a regular basis.***

  Courses benefit from refinement once they are being studied and it is clear to see their strengths and weaknesses from the students' perspective. It is often the case, for example, that students take longer to complete activities and study tasks than expected, and such courses can be improved by cutting material and giving clearer advice about what and how to study. It is also particularly difficult to judge what the student experience is likely to be, where the skills and the equipment used by the student cover a wide range. There is an even stronger rationale, therefore, to evaluate the student experience and to plan for courses to evolve, with each presentation.

RELEVANT INTERNET SITES

For online learning accessibility:
IMS Guidelines for Developing Accessible Learning Applications
www.imsglobal.org/accessibility/accessiblevers/index.html

Web Accessibility Initiative's 'Web Content Accessibility Guidelines'
www.w3.org/TR/WAI-WEBCONTENT/

For information about usability and Web design generally:
www.useit.com/alertbox

For access to Web resources and contacts concerning research and development at the Open University:
http://kn.open.ac.uk/public/

For access to research publications about ICT in distance education, developed by NKI Distance Education:
www.nettskolen.com

For information about ICT in UK further and higher education from the Association for Learning Technologies site:
www.alt.ac.uk

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Notes

1. Streaming audio is audio and broadcast material that can be accessed by a Web browser or other appropriate software on a personal computer.

2. This course is the focus for a case study, undertaken by Mary Thorpe and Stephen Godwin, both of the Institute of Educational Technology, as part of research into interaction in computer-mediated teaching, funded by the Andrew Mellon Foundation, USA.

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CHAPTER 4

APPROACHES TO FUNDING

Greville Rumble and Fredric M. Litto

SUMMARY

Technology has changed the cost structure and funding requirements of higher education (whether public, private-for-profit, or private-not-for-profit), making it necessary to carefully distinguish and prioritise *committed* costs, *flexible* costs, and *business-sustaining* costs. Traditional approaches to higher education are highly labour-intensive; distance education is capital-intensive but possibly permitting low flexible costs; and e-learning offers varying patterns of financial results. The planning of programmes for lifelong learning and distance education must take into account short- and long-range variables such as principal objectives or mission (e.g. profit motive; bridging the gap between those with and those without access to new technologies), technological and media alternatives, financial sustainability, and who will have to pay which part or parts of the costs (student, institution, government). Trade-offs (that which must be sacrificed in order to obtain a desired benefit), drawbacks, and some emblematic case studies from Latin America and other parts of the world are set forward as examples of the idea that "no one size fits all".

CHANGES IN COST PATTERNS AND FUNDING NEEDS

The use of technology in higher education has radically changed both the costs and funding requirements of the higher education sector. Traditionally, higher education is a labour-intensive business in which student numbers largely drive operating costs. Discussions in the 1960s (the period when higher education provision first began to expand) tended to focus on the possibilities of improving the cost-efficiency of higher education by: (a) reducing the overall amount of face-to-face teaching; (b) reducing the amount of small-group teaching in favour of larger lectures (including the use of closed-circuit television to reach students in "overflow" lecture theatres); (c) requiring students to study on their own, using reading lists as guides to the resources they might consult.

The most important use of technology in education was in distance education. By the 1970s a range of media (audio, video, computing) were being added to the print-based

correspondence teaching systems that had been developed in the 1840s if not earlier. A number of technologies were used to distribute media (for text, printed materials in various formats, teletext, etc.; for audio, radio, audio-cassettes, CDs, etc.; for video, television, videocassettes, DVDs, etc.). The learning materials made available through mass-media technologies could meet the needs of very large numbers of students. They could also be reused over a number of years to meet the needs of successive cohorts of students. This meant that the initial effort of developing materials had a long-term payoff.

This was important because experience showed that it took far more academic time to develop materials than it did to prepare a lecture or seminar. One suggestion was that while it took from two to ten hours to prepare a one-hour lecture or seminar, it would take 50 hours or more to prepare a text that would engage a student for a single hour, and over 100 hours to prepare one hour of video. However, the decline of teacher productivity in the development phase (measured in terms of the number of hours of teacher effort required to produce a one-hour learning experience for the student) was more than made up for by the fact that in the delivery phase many thousands of students might study the same materials.

The use of learning materials was accompanied by a reduction in the amount of face-to-face contact (because information about what needed to be learnt was now provided through materials and not through lectures). Occasional face-to-face tutorials (where provided) were often undertaken by casual staff paid at an hourly rate, and were used to lead students through the materials and clarify their thinking; the marking of assignments and examinations was usually contracted out to less-costly casual staff who were only paid if students submitted scripts; and more general advice and guidance services was organised around centralised specialist functions and help desks, which tended both to concentrate expertise and to be more efficient.

Initially, the development of computer-based teaching and learning systems seemed to increase development costs because it took such a lot of academic and specialist time to develop materials to engage the student in really meaningful activities, or to provide adequate testing and intelligent-tutoring programmes. However, some courses provided little in the way of materials, thus keeping costs down. Arizona Learning Systems (1998: 13-14) found a wide variation in the costs of developing a three credit hours Internet course (the equivalent, in academic credits, of a face-to-face course which met three times a week for an hour each time) of from US $6,000 to $1,000,000, depending on the approach used (see Table 4.1). Much of this is the cost of academic and technical labour.

Table 4.1: *Cost of developing a three-unit Internet course (US$)*

(ARIZONA LEARNING SYSTEMS, 1998)

Course outlines and assignments	6,000
Text	12,000
Text with reference material	18,000
Text with reference material and images	37,500
Audio and video	120,000
Simulations	250,000
Virtual Reality	1,000,000

The sheer cost of developing materials for distance courses meant that in general those distance teaching universities that developed extensive learning materials to support their courses had to constrain the size of their curriculum by limiting the number of specialist degrees offered, and the number of optional courses offered to students. Use of existing resources (textbooks, etc.) got round this problem, leading to the development of what were sometimes called "wrap-around courses" (courses where a strictly limited set of guidance notes helped students tackle materials presented in textbooks, etc.). The development of computer mediated communications helped here, by enabling students to interact with their teacher and with other students. Put together these developments enabled course designers to answer two of the main criticisms of highly structured distance teaching courses: the reliance on an over-packaged course that reduced students to "passive" consumers (a criticism that was never entirely justified since it ignores the constructivist process that goes on as students try to make sense of the materials before them), and the lack of democratic argument and discussion within distance courses where students were isolated from their teacher and from each other. As a result, a typical course model emerged that involves a combination of a virtual library of materials, a Webliography that directs students to other reputable online sources, a computer conferencing environment structured around topics and moderated by a lecturer, and electronically submitted and returned assignments that teachers marked (c.f. Parnell, 2002; Litto, 2004).

If networked computers seemed to address one set of problems, two others quickly emerged. The first was whether a teacher could look after more or fewer students online than in a face-to-face environment; the second was whether teaching online was more or less labour-intensive than teaching face-to-face. Both issues were fiercely debated. Bates (2000: 126-7) suggested that in comparison with face-to-face teaching, computer mediated communication (CMC) does lower the costs of tuition because a good deal of the students' time is spent studying the material, and so the teacher needs to spend less time per student overall in class. Other analysts argue that students will also spend a great deal more time learning from their peers, and that this too will reduce the demands they make of their tutors. Certainly DiBiase (2000: 15-16), teaching for Penn State University's World Campus, found that he and his Teaching Assistant were spending less time supporting students on an online course (1.6 hours per student against 2.6 hours on a regular course). The general consensus, however, is that the teacher's workload rises given the enormous volume of messaging arising from increased interaction with students, with each message requiring more time to compose than is the case in verbal interactions. Some estimates suggest that tutors could well spend twice as much time tutoring online as they do face-to-face (c.f. Rumble, 2001). This raises the question of how many students an online instructor can handle. In classroom courses in the USA, it looks as if people think they can handle from 25 to 30 students, working perhaps 10 to 12 hours a week. Boettcher (1999) suggests that experience indicates that a member of faculty can handle more students on a Web course – in the range 25 to 65, but that this will require more time – so that although there are courses with 50 – 60 students on them, there are many courses where student numbers are deliberately kept down, somewhere in the range of from 12 to 20 students. Whether there is an efficiency gain or loss is very dependent on student numbers. One way of coping with the cost implications of this increase in workload is to employ more staff but reduce the cost of hiring through "labour-for-labour" substitution – that is, the substitution of cheap labour including adjunct staff and postgraduate students for expensive faculty labour. These options are much discussed in the US literature.

There is also some evidence that the lower levels of cost are more likely to be found on a synchronous online course (in which access to the online tutor is in effect timetabled), with asynchronous courses costing more. Certainly Whalen and Wright (1999: 32) found

significant differences between synchronous and asynchronous course development costs. The former required much less development time because they involved less media. Also, synchronous contact reduces the open-ended nature of asynchronous tutoring, thus reducing costs.

Further analyses can be found in the literature, reflecting, on the one hand, a European perspective (Hülsmann, 2000 and Ortner and Nikolmann, 1999), and on the other, a North American one (Finkelstein et al, 2000 and Matkin, 1997).

NATURE OF COSTS IN HIGHER EDUCATION

(a) Operating costs

Costs arise from the acquisition and use of organisational resources. In distance education, the majority of expenses are determined by the decisions (a) to offer a curriculum of a particular size, and (b) to provide the infrastructure to manage and support learners. Such *committed costs* cover most personnel costs, the costs of computing and telecommunications systems, and depreciation on buildings and equipment. Hence, committed costs are any costs that provide the necessary infrastructure to enable one to provide goods or services at a certain capacity (e.g. staff costs of an office of student admissions and records or staff costs within an audiovisual studio). They are distinguished from indirect (common) costs, which are those that cannot easily be "untangled" and thereby assigned to a particular service or product (e.g. the cost of cartridges in a desktop publishing office). Committed costs are unaffected by how much the organisation *uses* the committed resources. Rather they are related to a *planned* level of activity. The fact that capacity is fixed (and is being paid for) in advance of determination of the actual need means that if demand levels fail to meet expectation, unused capacity results. This unused capacity has a cost that has to be covered by income.

Committed costs can be distinguished from *flexible costs* that are paid for only in the amounts used. Examples of flexible costs would be the costs of payments to materials' authors hired on contracts for service, the costs of delivering materials to students, and payments to tutors for assignments marked. This is all day-to-day work. Generally, flexible resources do not have a capacity defined for them because their supply (and capacity) can be adjusted up or down to meet actual demands.

Flexible costs, by their very nature, can be traced to particular products or services. In contrast, committed costs related to the provision of capacity often cannot easily be attributed to particular products and services. Such costs are referred to as *indirect (common) costs*. Other indirect costs are entirely independent of the decisions to provide capacity: rather, they sustain the organisation in being. Such costs (the costs of top administrative staff, for example) can be thought of as *business-sustaining expenses*. Generally, activity based costing approaches will assign capacity-related indirect costs to products, services and customers, but will not attempt to assign business-sustaining expenses further down the organisation.

(b) Capital costs

All the above are recurrent operating costs (that is, other things being equal, what is spent this year will also be spent next year). There will also be capital costs associated with the provision of buildings and equipment. These arise only when one needs to purchase a capital item. These need to be depreciated over appropriate periods: in the case of

computing equipment, generally over five years (although this is arguably too long a period); in the case of furniture, over 10 years; and in the case of permanent buildings, over 50 years. Some theorists argue that all goods and services that have a useful life of more than one year should be treated as capital costs and hence depreciated. This would include staff training, where the benefits of training may be held to last for more than a year, and investment in systems and processes as well as equipment. For example, managing many tens of thousands of students necessitates investment in computer systems to handle student administrative processes (admissions, course allocation, fee collection, tutor-student allocation, materials dispatch, assignment handling, examinations etc.). Integrated student administrative systems can be very expensive to develop, hence most institutions that develop such systems tend to use them for a number of years.

CHANGE IN THE COST STRUCTURE
OF HIGHER EDUCATION

Traditional higher education is a labour-intensive business in which the costs of teaching are driven by the average size of classes and the number of contact hours. Most costs are committed by decisions to teach a given volume of students on a given spread of courses. In addition, central business-sustaining activities need to be funded.

In technology-based teaching, the teaching-learning materials developed for a course represent a capital cost that needs to be depreciated over the life of the course. Course lives will vary, depending on such factors as continuing demand and the rate of change in the knowledge base of a subject. Three to ten years might be a reasonable expectation, although a few courses will need continuous updating. The current interest in reusable learning objects and granularity (c.f. Littlejohn, 2003) shifts the emphasis down from whole course reuse to the identification of the smallest educationally-viable unit of resource that is capable of helping a learner achieve a particular learning objective. The hope is that these can be identified and catalogued in ways that will enable them to be searched for and reused in future courses without necessitating further development costs.

The importance of this is that the move towards resource-based learning substitutes capital for operating costs and thus changes the cost structure of education (c.f. Downes, 2001).

BOUNDARIES

In any resource-based learning system using advanced technologies, the total *system* costs will cover both the costs directly borne by the educational institution and the costs of study that are incurred directly by the student.

Most university students expect to buy textbooks as well as pay for the incidentals of study (stationery, travel to lectures etc.). Many higher education institutions now demand that students have their own computers. These items are paid for from the student's own pocket. However, students are likely to have access to some institutionally provided computing facilities just as in appropriate subjects they are provided with access to laboratories. Also, access to less-basic materials, for example journals and books other than the basic core books for their course, is provided through the institution's library. These items are regarded as part of the core service, whether subsidised or paid for by fees.

In distance flexible- and blended-education courses, what is provided as part of the "basic package" given to all enrolled students, and what is an additional cost, varies significantly. Some systems provide course materials as part of the basic service provided to all enrolled students; others expect students to buy their course texts as a separate item.

Distance students study to a much greater extent at home. Most systems regard the costs of the "home study environment" as the student's responsibility. Thus the cost of the technologies students use in their homes (e.g. radio, television, CD-players, personal computers) to access courses usually falls on them, not least because few institutions could afford to equip their students with computers. Where computing is concerned, the additional costs can be considerable, involving stationery, ink cartridges, Internet-service-provider charges, the annual costs of firewall and virus protection etc.

This is generally easier where ownership of the relevant technology is widespread, or where there is a social system that encourages those with access to share with neighbours who lack access. (In Bangladeshi villages, for example, it is quite common for those owning television receivers to allow neighbours to watch programmes with them. This fact was an important factor in encouraging the Bangladesh Open University to plan to make use of video.) Where market penetration of a technology is low an institution *may* provide individual students with the relevant equipment either on a loan or hire basis. The institution may also try to negotiate a deal so that students get the equipment at a preferential rate from manufacturers and retailers. Alternatively, some provision may be made at local study centres so that students can go and use equipment at the centre to listen to audio, watch video, use computers, and gain access to the Internet. The problem with the latter solution is that there may not be enough equipment to meet students' real needs (some institutions ration the time a student can access the Internet to get round this problem, but this may mean that nobody gets sufficient time). Also, access to a study centre may be difficult or inconvenient. As a result, some institutions restrict their use of technology to those technologies that have penetrated the market sector they are hoping to attract.

Although many students pay fees, relatively few students in the public sector pay the full economic cost of their courses and hence there is a question around the balance between what students are provided with as a part of the subsidised "package" and what "extras" they have to pay for themselves. Recognising the costs that fall on students is important, especially where as with much distance education there is an access mission involved. Access can, of course, be interpreted in a number of ways: the emphasis may be on providing opportunities for remote students who are unable to attend a campus; for those whose lifestyles and work do not allow them to study at fixed times; for those who are home- and institution-bound (e.g. the sick and disabled, or in institutions such as prisons). Access can also be interpreted in academic terms, opening up opportunities for those whose qualifications would not normally qualify them to attend higher education. Finally, the lower cost per student of distance education and the fact that students can study from home may open up study opportunities to those who cannot afford to attend a full-time course. Even so, there is plenty of evidence (e.g. Rumble, 1997: 194) that a significant proportion of students can find the costs of fees a problem, leading them to decide never to apply in the first place, decline offers of places, or withdraw from study.

One other boundary issue needs to be considered. Generally, institutional budgets cover the areas of service provided by the organisation. The risk to the main provider can be reduced (as may costs) by outsourcing provision of some services to external suppliers. Distance and e-learning lends itself to the breakup of the basic service package into its constituent parts. The PricewaterhouseCoopers' Report on the proposed (and now failed) UK e-University not only suggested that the services required to support a course might be provided through a series of subsidiary operating companies, such as: (1) SmartForce and Tutor.com, which might provide tutorial support for those not content with online interactive tutorial support; (2) Questia and XanEdu, which would provide online library facilities; and (3) examining bodies, which would award qualifications, but that all these services would be bought separately by those students who wanted to opt into them (PricewaterhouseCoopers, 2000). Outsourcing, however, raises problems of coordination of service, and suggests that the poor, who arguably will have most need of support services, may lose out because they will be tempted not to pay for "extras".

The issues raised here are really about where the boundary is drawn between costs that are seen to be of institutional concern, and are hence taken into account in considering where the money to pay for them is coming from, and those that are regarded as outside the boundary, and are hence usually ignored when it comes to considering institutional funding. Though having, in general, reduced per student costs for the institution, the technologisation of education has on the whole led to increased costs for learners. These additional costs are usually only considered where access issues impinge on success in recruitment from the target group.

FUNDING TECHNOLOGY-BASED HIGHER EDUCATION

For many years the funding of non-traditional higher education has been recognised as a "nightmare for everyone involved" (Swinerton and Hogan, 1981: 1). Speaking of the early development of Athabasca University, Snowden and Daniel (1980: 76) pointed to "the considerable difficulty we have in describing the institution's operations and its economics to officials in government and funding agencies". These difficulties remain.

Early private-sector correspondence colleges

Historically, distance education – in its earliest guise of correspondence education – was generally funded from private sources. Small scale distance education initiatives could be set up reasonably easily: costs could be constrained by limiting the curriculum and the quality and quantity of materials furnished, by providing little support for students, and by paying tutors poorly. Cash flow was managed by getting students to pay fees up front on a non-returnable basis. Some initiatives were philanthropic and hence not-for-profit. However, many private correspondence colleges and schools were set up to make a profit. Although there were some excellent providers, private correspondence schools and colleges generally had a poor reputation. Drop-out rates were often high. Since students who dropped out early did not incur costs (because tutors were only paid where assignments were submitted), many of these systems relied on drop-out money to maximise profits. With significant sums spent on recruitment, the suspicion was that many colleges were more interested in recruiting fee-paying students rather than potentially-successful learners.

STATE-FUNDED DUAL-MODE SYSTEMS AT UNIVERSITY LEVEL

The costs of setting up a correspondence university offering a broad curriculum made private initiatives much more difficult at the higher education level. Most of the distance higher education initiatives started in the late 19th century began when existing universities broadened their mission to meet the needs of remote students. Generally, the cost of developing materials was low because lecturers restricted themselves to preparing some notes on the material they covered in their lectures for the traditional students. (Later, lectures were videotaped at very little additional cost so that the part-time off-campus students could watch the original lecture at a later date.) Few dual-mode universities bothered to allocate indirect common costs between their on- and off-campus provision (MacKenzie, Postgate and Scupham, 1975: 80) with the result that the overhead costs of small initiatives tended to be ignored and hence subsidised.

Funding arrangements varied considerably. Whether courses were subsidised by the state, or paid for by student fees, often depended on whether the courses were seen as extending educational opportunities to high school graduates who could not get into a traditional university, or being provided to adults who were wage earners at the same time as they studied. If no distinction was made between on- and off-campus students attending dual-mode institutions, then funding of both types of students was usually done on exactly the same basis. However, in some systems state funding of higher education tended to be restricted to high-school graduates, so that while traditional students were helped with their fees, adults had to meet the full cost of fees from their own pocket. Also, courses in certain professional and vocational subjects (for example, law, accountancy, management – but not teacher education and training) were seen as being particularly appropriate for people who were in work and who could afford to pay high fees. Where this was the case, fees were either charged at a full-cost-recovery rate, or priced at a market rate (i.e. full-cost-recovery plus profit).

Generally, the trend towards cost-sharing has led to higher fees and lower subsidies for all students, with the result that distinctions between on- and off-campus student fees have been eroded.

PURPOSE-BUILT DISTANCE TEACHING UNIVERSITIES

Governments initially saw the foundation of purpose-built, large-scale distance teaching universities as a relatively cheap way of funding the expansion of higher education. Distance teaching universities have generally been funded to a greater or lesser extent by government, with some of their costs being met by student fees. (The idea that they would be able to support themselves to a significant degree by marketing their educational materials has proven illusory.)

The more sophisticated the administrative computer systems, the greater the use of high cost technologies, and the more extensive the curriculum and the use of learning materials, the higher the initial start-up costs. The practical issue of meeting a significant proportion of the costs of a distance teaching university from fees has proven challenging. The first challenge is to fund the very considerable expenditure on buildings, system, and course design and development, before a single student could be enrolled. As a rough rule of thumb, a period of at least two years needs to elapse between the decision to start an institution and the date when it will begin teaching its first students. During this period, very considerable costs are incurred, with no income coming in from student fees.

Even when students start to enroll, there may be problems. The cost structure of distance teaching universities is such that the high-fixed, low-variable costs of the system mean that the average cost per student is very high if there are relatively few students in the system. A system with relatively few students would need to charge very high fees to cover its average costs. Ideally then, systems need to enroll large numbers of students from the very start to bring average costs down, and hence stand any chance that a reasonable proportion of the cost per student will be covered by fee income.

Starting on a smaller (pilot project) scale – although on the face of it attractive – does not really solve the problem of costly up-front expenses because the administrative systems required for a small project would generally be unsuited to a mass project, and so only put off the cost of expansion while delaying the time when the system begins to gain the benefits of economies of scale.

These problems may explain why distance-teaching universities have been publicly-funded rather than private.

The other problem relates to the actual way in which funding is determined. Conventional funding approaches do not work well where high-cost media distance education is concerned. Traditional higher education tends to be funded on a student per capita basis (although more sophisticated approaches involving the number of course hours, the average size of classes, and the number of teaching hours per lecturer are also possible). Such systems may also be weighted to take account of the different teaching needs of subjects and student levels (with science subjects and postgraduate students usually weighted more heavily than arts subjects and undergraduates). Because such a high proportion of the cost is directly linked to the face-to-face teaching of students, the build-up of cost is closely matched to increases in student numbers, and the lead-in time between recruitment of new staff, and the launching of new courses with their populations of fee-paying students is much shorter.

Student per capita funding approaches do not, however, deal with the problem of funding the extensive start-up costs of large-scale, broad-curriculum, high-technology-use distance systems; hence in its early years, a per capita funding approach will seriously *underfund* systems of this kind. On the other hand, such an approach will also seriously *overfund* well-established large-scale systems by ignoring the potential economies of scale that they can achieve.

E-LEARNING AND VIRTUAL UNIVERSITIES

The difficulties outlined above are not necessarily encountered in e-learning projects. E-learning systems that eschew the development of expensive materials (for example, sophisticated learning environments involving text, audio and video, simulations etc.) and keep to low-cost solutions (the posting of course outlines on the Web, coupled with Webliographies and bibliographies), will not have the same development problems. Equally, e-learning systems that use timetabled synchronous support environments will avoid to some extent the increased teaching costs found in asynchronous e-learning support environments. Such courses can therefore be regarded as largely very similar, in their funding requirements, to traditional courses.

Table 4.2 summarises the elements that need to be funded in distance and e-learning systems.

Table 4.2: Fundable elements in distance and e-learning

COST ELEMENT	MODEL		
	DUAL-MODE MODEL	**MASS DISTANCE EDUCATION MODEL**	**E-LEARNING**
Committed materials' development costs (i.e. costs of developing print, audio, video, computer-based learning materials)	Kept down by videotaping live lectures Extensive replication of existing curriculum allows wide range of courses to be offered	Medium- to high-cost materials development Generally restricted curriculum to keep materials costs down	Potentially low- to high-cost materials development: in practice generally kept low Low-cost approach allows for extensive curriculum
Committed student support costs (i.e. student administrative systems supporting admission, choice of course, tutor allocation, assessment, examinations etc.)	Generally kept very low Student numbers generally relatively small	Usually extensive development of administrative and support systems Generally only justifiable if student numbers are very high	Generally low cost Generally very few students on each course
Student-related flexible costs (especially tuition but also advisory services of various kinds, and assignment/ examination marking)	Generally matched against materials development costs so that overall total costs do not rise	Kept low by restricting amount of face-to-face contact. One of the main reasons why economies of scale may be possible.	Generally higher than traditional education.
Committed and flexible reception costs (notably learning or study centres; also costs of home study environment)	Study centre or work-place provision for face-to-face tutoring Some usually low-cost home-based costs	Study centre or work-place provision for face-to-face tutoring Some usually low-cost home-based costs, but computing may increase cost element considerably	Study centre or work-place of networked computers, but ... ... these costs generally transferred to student to support home-based learning
Capital costs (buildings, equipment)	May be some saving on teaching accommodation	Savings on teaching accommodation (costs usually transferred to operating budget as facilities are hired); however, additional costs for production and distribution facilities	Savings on teaching accommodation

The advent of e-learning precipitated a great deal of hyperactivity with widespread discussion of the possibilities of setting up a for-profit e-learning sector. This was particularly true in the United States, where there was a longer tradition of mixing for-profit, non-profit private, and public education and training provision (Ryan, 2004: 147). In the United States, vocational education and training for-profit is dominated by national large-scale providers (DeVry, Corinthian, Strayer, ITT Educational Services). However, the actual proportion of the total market met through for-profit providers is (in the absence of reliable figures) debatable. Ryan (2004: 152) suggests that the impact of for-profit providers has been greatly exaggerated. Indeed, she argues (2004: 158) that "the individual student market is overwhelmingly in favour of public providers" because "tuition rates are cheaper than in for-profit providers, because reputable for-profit providers are now more selective with rigorous entry criteria, and they direct poorly-prepared students to public providers". Some commentators have seen for-profit e-learning as a retrogressive step back towards the worst excesses of the unregulated early private correspondence sector.

SOME INNOVATIVE EXAMPLES FROM LATIN AMERICA

The peoples of Latin America live simultaneously in the three waves of economic development, agricultural, industrial and informational, and hence justifiably require varying approaches to distance study for higher education and lifelong learning (defined here as any learning that is embarked on subsequent to the individual ceasing to attend that period of full-time education embarked upon as a child). In some countries, it is sometimes a community of pedagogically conservative educators that holds back attempts at innovation (Litto, 2002), while in others it is simply the lack of the human and financial resources needed to set off ambitiously in this direction. Perhaps one of the most high-reaching projects underway is TIDIA-Tecnologia da Informação no Desenvolvimento da Internet Avançada (Information Technology for the Development of the Advanced Internet), a three-year multi-institutional effort, to cost three million US dollars, and sponsored by FAPESP, the State Government of São Paulo's Research-Support Agency. Sixteen research laboratories in public and private universities in the State are at work on the collaborative development of a "suite" of interoperable applications for distance learning on the Web, which will be open-source in nature, and will be made available without charge to all interested parties. It will include the software programs necessary for online courses (including special cases such as those for music and mathematics), for non-courses but nevertheless educational environments (such as "digital caves" and other forms of virtual reality), for the construction of digital libraries, museums and repositories of learning objects (all of which must have interfaces with the course platforms), and for the preparation of dictionaries, encyclopedias, concordances, time lines and other reference tools that are part of the infrastructure for distance learning. Begun in mid-2004, it is expected to be tested and completed in 2007, and represents an example of a far-sighted public institution, recognising the hardship for individual educational entities to acquire commercial packages or to create in-house clones of such packages, is investing in a solution that will benefit society, in its public and private faces, as a whole [www.tidia.fapesp.br].

The CLACSO Virtual Campus is a most interesting example of a regional, multi-nation effort to use Web-based distance learning organised by social scientists themselves, without any major injection of financial resources, and entirely self-sustaining through student fees. CLACSO (Consejo Latinoamericano de Ciencias Sociales — Latin American Council of the Social Sciences) is a non-governmental organisation uniting 5000 specialists in 160 research and post-graduate study programmes in the social

sciences in 21 countries of the region, including the Caribbean. Headquartered in Argentina, the Virtual Campus offers advanced online certificate courses, featuring multinational faculty, in subjects like *Indigenous Peoples: Globalization and the Plurinational State*, *Slavery in America*, *Another Urban Development: Inclusive Cities, Social Justice and Democratic Management*, and *The Public Space and the Privatization of Education in the Americas* [http://campus.clacso.edu.ar].

Yet another example of how educators themselves are not waiting for governmental or institutional initiatives, but are independently constructing "cottage industries" of continuing education through distance learning, is that of Professor Maria Helena de Amorim Wesley, who retired in 2000 from the Federal University of Alagoas in Brazil's northeast region in order to pursue her dream of initiating informal continuing education through the Internet. She sold her automobile, acquired two computers, and organised a small group of volunteers to help her create a site which offers a hodgepodge of *curiosa* related to Brazilian culture and history in the form of literary texts, scholarly documents and iconography that may eventually be useful to young and adult learners who discover her minor treasures through searches on the Web and links offered by entities like the Organization of American States and the Bibliothéque National in France [www.brasilbrasileiro.pro.br]. A more extensive hodgepodge of multimedia learning materials, but presently receiving 15,000 visitors daily because of the uniqueness of the materials freely offered, is the Virtual Library of the Student of the Portuguese Language, a seven-year-old project of the University of São Paulo, which started with an initial grant from the AT&T Foundation, but now sustains itself modestly through occasional small, local grants. It has achieved an enviable record of obtaining and making available through its site large collections of hard-to-obtain audiovisual material produced by governmental agencies, foundations, learned societies and corporations, and is now broadening its scope to include materials originating in all of the eight countries in which Portuguese is the official language [www.bibvirt.futuro.usp.br].

Continued capacity-building of science teachers is a high priority in Latin America as elsewhere, and the Universidad Nacional de Córdoba, Argentina, is proud of achieving an important goal through a project that required careful financial planning. Whereas commercial vendors in the region were asking US $300 per teacher for participation in a year-long Internet-based, English-language continuing education course, the University received a grant from the provincial Agencia Córdoba Ciencia S.E. that permitted it, under the "umbrella" of a research grant, to carry out a sophisticated programme for teachers of the natural sciences. The content involved subjects such as *Evolution and Urban Solid Waste*, *Chagas's Disease*, and *AIDS*. Ten university staff members donated their time to the content preparation, and hence it was possible to have a cost of only US $30 per teacher for participation in the year-long course (Valeiras, 2005) [www.efn.uncor.edu/outros/educeva/home.htm]. The Universidad Nacional Autónoma de México mantains several programs that promote research in distance learning as a form of discovering which models may be most appropriate to local conditions.

During the last three years, the Centro de Enseñaza de Lenguas Extranjeras (Centre for Foreign Language Teaching) of the University has held five Web-based courses for teachers of languages, using a minimal staff of an engineer, an instructional designer, and ten specialists in applied linguistics, with highly satisfactory results [http://comenius.cele.unam.mx/alad].

A final example of innovation in the financing of continuing education using distance learning approaches is INTERLEGIS, a broad Federal Government of Brazil programme at the national level, aimed at supporting the modernisation of the legislative branches of

government at the city, state and federal levels, reaching not only professional staff but elected officials as well. Sponsored by the country's Federal Senate, with support from a loan from the Inter-American Development Bank, the programme reaches learners throughout the 26 states and the capital district, as well as in 2700 city-government offices where Internet and videoconferencing facilities are in place. The courses, without any charge for learners or local governments, regularly deal with such subjects as *Public Budgeting*, *The Law of Fiscal Responsibility*, and *The Role of the City Councilman*. As a by-product of the educational programme, there has arisen a "virtual community of the legislative branch," which, it is expected, will facilitate the exchange of ideas and experiences among those involved, and will, in the long run, create a more transparent and dynamic governing process in the country.

It can be seen, from the Latin American experience, that innovations in funding can range from straight governmental investment in non-traditional approaches to programmes disguised as research grants, and from "cottage-industries" maintained by individual educators or groups of educators, to self-supporting activities maintained entirely by student fees.

POLICY CONSIDERATIONS

Various strategies for the funding of distance higher education exist, including public provision, private not-for-profit provision, and private for-profit provision. (A further source of funding comes from aid agencies – although this raises questions around the long-term commitment of donors to sustain funding.) Public provision does not rule out cost-sharing in which students are asked to pay fees. These fees may cover a significant or a relatively small proportion of the total cost of the system. From the point of view of the student, the possibilities are:

- Free provision (all costs subsidised by the state)
- Heavily subsidised provision, but with students making some contribution towards total costs
- Heavy bias towards cost sharing in which students meet a significant proportion of the costs through fees, but in which there is some subsidy from state sources
- Full cost recovery through student fees
- Market price provision (full cost recovery plus profit)

Students may not have to meet the costs of fees themselves. Many people feel that it is reasonable for employers to fund vocational education and training courses, and to provide the in-house facilities required to enable employees to learn. Having said that, this is not always the case, particularly where small- and medium-sised enterprises are concerned, which is why government often steps into the vacuum (Rumble and Moran, 2004: 206).

Whatever the option, the level of subsidies and fees will (except in the case of purely market-driven prices) have some bearing on costs. The total cost of these distance- and e-learning systems depends upon a range of factors including the number of students, the sise of the curriculum, the choice of technology, the extent of use of pre-existing materials, the level of reuse of materials once developed, the level of service offered students, the organisation of work, employment practices, etc. These factors also impact on average student costs and hence on the per capita level of subsidy and the level of fees.

How a system is funded depends in part upon the objects of the system and in particular the level of discretionary income available to the target group (i.e. the amount of money they can afford to spend on education) and the extent to which there is an access dimension to the project. Projects aimed at ameliorating previous socio-economic and educational disadvantage will on the whole depend upon significant subsidy.

Even here, however, there may, as in all cases, be room for subsequent cost recovery through loan repayment mechanisms.

Policy options in this area, therefore, need to consider:

- The aims of the system
- The nature of the target group and their ability to pay (whether immediately or on a deferred repayment basis) and to have access to the technology most appropriate to the nature of the course (rented, borrowed or purchased equipment; reliable access to a neighbour's or community-based equipment)
- Costs in relation to the ability of sources to fund a project
- The results of studies showing that that tutors could well spend twice as much time tutoring students online as they do face-to-face

In respect of the cost structure of the system, it is recommended as a general policy:

- Shift costs from committed to flexible cost categories, as a way of dealing with a tight budget; for example, emphasise the contracting of part-time (as opposed to full-time) workers in the production of material, student support and grading.
- Minimise indirect common costs by close monitoring of the real use of such expenses.
- Minimise committed costs by avoiding any exaggeration in the initial planning of staff, space and technology.
- Cover flexible costs by student fees, always initiating as frugally as possible, and then extending services as income permits.

In respect of fees, it is recommended as a general policy:

- Accept that start-up costs are unlikely to be recouped quickly, and have as a policy the recovery of investment over an extended time.
- Ensure that students pay something towards the cost of their courses, however little (students tend to be better motivated if they have made some financial contribution towards their studies).
- Ask students to fund the costs of their "home study environment", including the technology they need to access courses. (However, this may not always be reasonable, in which case some provision may need to be made to enable students to access courses.)
- Be cautious in implanting an increasingly incremented fee-structure for "extra-services" based on the student´s ability to pay, for it may cause those students of modest means to have a diminished learning experience.

RELEVANT INTERNET SITES

For an example of how financing fits into a nation's (South Africa´s) over-all plan for higher education at a distance:
www.che.ac.za/documents/d000070/index.php

For an overview, prepared by the Asian Development Bank, of how the financing of distance learning in Asian countries currently stands:
www.adb.org/Education/financing-edu.pdf

For an overview of the issues involved in deciding who should pay what part of the costs of distance learning in California community colleges:
www.cccco.edu/divisions/esed/aa_ir/disted/attachments/08-2sdep.pdf

For a view of the plan for self-financing of Hong Kong's Opening Learning Institute:
http://www1.worldbank.org/disted/Management/Operations/bud-03.html

For an understanding of the financing of distance learning within the context of financing of higher education in general, see the World Bank report:
www.esib.org/commodification/documents/financing_educatioN_WB.pdf

For the discussion and results of a meeting of university chancellors concerned with the financing and management of distance learning programmes:
www.uwex.edu/chancellor/documents/sloan_report.pdf

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CHAPTER 5

LIFELONG LEARNING IN THE AFRICAN CONTEXT: A PRACTICAL EXAMPLE FROM SENEGAL

Olivier Sagna

CHAPTER SUMMARY

Lifelong learning has been hard to put into practice in an African context on account of the general problems affecting education and training and the obstacle of the digital divide. This article describes an initiative of the School for Librarians, Archivists and Documentation Specialists (*Ecole des Bibliothécaires, Archivistes et Documentalistes*) (EBAD) at Cheikh Anta Diop University in Dakar, Senegal. Through the experience of setting up a distance professional training scheme, EBAD has been able to show how the use of information and communication technologies (ICTs), in close partnership with employers, can widen access to training for employees, combine work with in-service or initial training, better harmonise training and work and make it easier to hire newly qualified staff. At the same time, the effective development of lifelong learning depends on the introduction of a whole series of supportive measures.

INTRODUCTION

The importance of the concept of lifelong learning for the world of the twenty-first century is forcefully stated in a memorandum published by the European Commission (Commission of the European Communities, 2000). The vision of education and training presented therein features a combination of initial and in-service training, formal and non-formal education, self-directed learning, learning through practice and experience and wholly or partly ICT-based distance education designed to benefit learners not just at the level of occupational skills, but also in regard to their own personal development.

That is a hard concept to put into practice in an African context when most countries have yet to achieve the goal of education for all, and when few employees have access to in-service training either because they are ill-informed or on account of their employers' reluctance. It is made all the harder by the digital divide, which represents a significant obstacle now that ICTs form both the subject and the means of lifelong learning: the subject, because ICT skills, for most people, are now basic requirements, and the means,

because of the proliferating use of electronic media and broadband online learning services.[1]

We shall not dwell on the general problems of education in Africa, for which solutions have been put forward within the framework of the World Declaration on Education for All adopted in Jomtien (Thailand) and brought up to date in the Framework for Action adopted by the World Education Forum in Dakar (Senegal) in 2000. The digital divide, on the other hand, warrants some clarification on account of its multidimensional nature.

THE DIGITAL DIVIDE IN AFRICA

Access to ICTs in Africa is, according to the ITU Digital Access Index, very low (International Telecommunications Union, 2003). The Republic of Seychelles is the only African nation in the upper access category, and all but a handful of the rest have a low level of ICT access.

Teledensity stands at around 5.2 telephones per 100 inhabitants, the percentage of households with a computer is even lower, and very few have access to the Internet. International Internet bandwidth is often limited to a few Mbps, specialised digital links tend to be very slow and ADSL is only available in a handful of countries. Added to that, access subscriptions and telecommunications rates tend to be quite costly.

Furthermore, the geographical distribution of telecommunications infrastructure is uneven: 67 per cent of fixed telephone lines in Senegal, for example, are concentrated in the capital, and a mere 1000 of the country's 14,200 villages have telephone connections.[2]

The digital divide also encompasses the social divide: 56 per cent of the population in Africa were living below the absolute poverty line in 2004,[3] so it is not hard to imagine that none but the privileged few having access to ICTs.

The digital divide also stems from the high levels of illiteracy affecting some 40 per cent of the population aged 15 and over, close to 49 per cent of whom are women.[4]

And it is a gender divide too in that the majority of those suffering from digital illiteracy are women (Regentic, 2004).

Finally, the digital divide has a linguistic dimension given the near-total absence of African languages on the Web; the fact that the bulk of the information available is in English is a drawback for non-English-speaking people.

OUTLINE OF A SUPPORT SYSTEM

The digital divide has also had an impact on the world of education, although it must be said that the international community is doing a great deal to bring ICTs into schools. The World Bank, through the World Links programme,[5] is providing computer equipment, promoting school Internet connectivity and training teachers in more than 35 countries. It is also contributing to lifelong learning through the short courses on offer at the distance learning centres set up within the framework of its Global Development Learning Network (GDLN).[6]

The Réseau d'Appui Francophone pour l'Adaptation et le Développement des Technologies de l'Information et de la Communication dans l'Education (RESAFAD), a network of French-language support for the adaptation and development of ICTs in

education, which was initiated by *Coopération Française*, is present in Benin, Burkina Faso, Equatorial Guinea, Guinea, Mali, Mauritania, Senegal and Togo.[7] Multimedia resource centres providing Internet access, classrooms and space for the creation of educational resources have been set up in those countries' capital cities; in-service teacher-training portals have been created in Burkina Faso, Senegal and Togo.

There have been two major initiatives in higher education: the African Virtual University (AVU) project funded by the World Bank[8] and the French-language digital campuses (CNFs) developed by *Agence Universitaire de la Francophonie* (AUF). AVU, with sites in around 20 countries, essentially offers short certificate courses. AUF and its CNFs enable database and Internet access, content creation and face-to-face and online follow-up for distance certificate and diploma courses respectively.[9]

Finally, after the World Summit on the Information Society (WSIS) in Geneva (Switzerland) in December 2003, UNESCO, in collaboration with the Swiss Agency for Development and Cooperation (SADC), decided to create 150 Community Multimedia Centres (CMCs) in Mali, Mozambique and Senegal. These centres are designed mainly for people in the rural areas generally left out of the training loop. Combining community radio with telephone, fax and Internet facilities, CMCs serve a dual purpose as both information and learning centres.

Such initiatives are crucial to the development of lifelong learning, for it is fanciful to believe that the latter can materialise in Africa unless there are the facilities to provide the necessary technical capacity and a suitable framework for learning activities. Cybercafés are often put forward as a possible alternative, but they rarely fit the bill due to a frequent lack of the required hardware and software configurations for distance learning tools, their limited bandwidth shared by crowds of users, their relatively high hourly connection rates, and, above all, an atmosphere that tends not to be too conducive to learning.

MAKING LEARNING COMPATIBLE WITH WORK

Such was the context within which the School of Librarians, Archivists and Documentation Specialists (EBAD) at Cheikh Anta Diop University launched its distance education project.[10] As EBAD used to be the only information science school in French-speaking Africa – training both technical staff and managers for libraries, archives and information services – a large proportion of its students through to the early 1990s came from abroad: 30 to 40 per cent on first cycle courses and close to 50 per cent in the final honours year. Over time, however, the number of foreign students dwindled, leading to a reduction in overall class sizes and a gradual erosion of the school's sub-regional function. There are many reasons for the falling numbers of foreign students. First and foremost, under the impact of structural adjustment policies (SAPs), African state grants for studying abroad were slashed and even abolished, public service recruitment was suspended and the chances of securing training leave diminished.

Enrolments fell still further as information science courses began appearing in countries such as Benin, Cameroon, Côte d'Ivoire and even Niger. And finally the devaluation of the CFA franc[11] in January 1994 seriously stemmed the flow of African students going to EBAD, especially for final honours degrees.[12]

As a result, many students specialising in the information sciences and finding it impossible to gain access to the final honours level ended up switching to other areas of activity, while those unable or unwilling to change track were left facing social and professional stagnation. For want of any action to reverse the trend, there was a great

danger of the profession's demise due to the loss of its best elements and the paralysis of the rest in a field in the throes of in-depth upheavals on account of an increasingly intensive use of ICTs and the new dynamic linked to the emergence of the information society.

In 1999, when EBAD was seeking solutions to the problem, the French Government launched the PROCOOPTIC Programme to promote ICTs in Africa, whose components included the 'Formations Continues en Informations Informatisées en Réseau' (FORCIIR) a project for continuing education in computerised networked information. Its aims were, *inter alia*, to upgrade the old African information science school diplomas, to recruit information mediators, to produce information products and to boost the presence of the French language on the Web. Such ends would be achieved by creating distance learning modules for initial and in-service training, providing the information science schools with support to help them modernise and for teacher training, and building partnerships with private-sector businesses, local authorities and associations.

In February 2000, after a series of meetings between EBAD and the French Ministry of Foreign Affairs, a co-operation agreement worth just over €1 million over three years was signed between the French Embassy in Senegal and Cheikh Anta Diop University. The initial phase focused on capacity building: equipping EBAD with information science books, subscriptions to databases and access to the Internet, establishment of a local network, installing IT equipment[13] in the library, the administrative offices, the teachers' offices and classrooms, training teachers and so on.[14]

One of the project's first fruits was the finalising of the curriculum reform that had been ongoing since 1997, and which was ready for implementation as early as at the start of the 2000-2001 academic year. Changes had been made not just in the educational content but also in the methods of knowledge assessment. End-of-year examinations were replaced by continuous testing, and an emphasis was placed on working in groups and studying at home.

The project's implementation also led to in-depth changes in the conditions, content and methods of face-to-face tuition, reaffirming the view that "distance education, because of its unique properties, can be subjected to essential methodological clarification, the primary benefactor of which, in return, would be face-to-face tuition" (Péraya, 1994).

After designing a distance education platform and producing a CD-ROM learner's guide,[15] attention turned to enrolment. Over and above the usual admissions requirements, access to training courses was limited to working professionals because students had to be able to afford to pay the relatively high tuition fees,[16] and to have an Internet-connected computer.

In addition to individual take-up of course content, this new environment also saw benefits emanating from discussions in the "virtual classroom". Those exchanges were vitally important given how the sense of isolation often felt within the framework of distance education can, as a number of studies have shown, drive learners to despondency or even to giving up altogether (Sauvé and Viau, 2002). The virtual classroom was an invaluable arena for various forms of dialogue between EBAD managers, teachers and learners using various means such as e-mail, discussion lists or even discussion forums. Through these different means, there were three types of exchanges, all of them mutually complementary and each with its own particular purpose, i.e. exchanges between:

- the administration and learners;
- the teachers and learners;
- the learners themselves.

So the virtual classroom acted as an arena for exchange, enhancement and learning. It was also a place of mutual support and sharing, a framework within which learners could pass on their experiences, describe the difficulties and sources of satisfaction they had encountered, seek advice for problem-solving, and express their views on all manner of issues pertaining to their training or social lives. The virtual classroom helped to confirm the introduction of a fourth pole – the group – into the conventional three-way educational relationship between the teacher, the learner and the subject matter, which characterises face-to-face tuition (Faerber, 2002).

One of the project's major breakthroughs was the introduction of a virtual training course designed to replace the face-to-face courses that students were used to taking under the supervision of a professional. It was hard to imagine asking distance learners taking courses while continuing to work to leave their workplace for two months. The virtual training course, therefore, put learners in touch with supervisors working for training establishments that had a Web site, and under whose guidance they carried out a number of assignments. Over the space of three months – split into two periods of one and two months respectively – learners were required to search for information online, to process documents using IT tools, produce an electronic information product, assess the performance of the host establishment's Web site, and suggest ways of fixing its weak points.

Finally, learner evaluations took place entirely at a distance. The system's weakness, however, resided in the fact that learners were not subjected to any sort of monitoring to check either their identity to ensure that they really were the individuals evaluated and not a third party; or even whether their working conditions really did comply with the educational ground rules. Meanwhile, end-of-course dissertations were delivered at EBAD, meaning that learners not living in Senegal had to travel there at their own expense.

LEARNING WHILE WORKING, WORKING WHILE LEARNING

At the same time, EBAD launched a six-month distance learning certificate course for business e-archivists and documentation specialists. The main aim was to provide professional training designed to help masters graduates enter the labour market; a secondary aim was to meet the growing demand in that market for trained individuals equipped with knowledge of a particular field and technical skills in information resource management (Michel, 2003).

To ensure that the course would be genuinely in sync with the labour market, an emphasis was placed from the start on private-sector partnership. Accordingly, the project was presented to company directors and association managers to see how they felt about the opportunities and usefulness of such a course. Their feedback confirmed that it met a genuine need, and the ensuing exchanges helped reduce the frequently noted discrepancy between the scope of information workers' skills and how they were perceived by company directors (Thiolon, 2003).

After some awareness-raising work, the project recontacted some 50 private and public-sector companies, non-governmental organisations, local authorities and associations. The object of the exercise was to present the content of the three-sided agreement binding the learner, EBAD and the host establishment, the idea being to create a genuine partnership in which each side could see that they really did stand to gain from working together with the others. The various obligations were as follows:

- The company would provide the learner with a computer and Internet access for at least two hours a day to enable him/her on the one hand to use ICTs on a daily basis and, on the other, to follow classes on the distance learning platform.
- EBAD would teach the learner and find him/her a host establishment for the duration of the course.
- Learners would pay a tuition fee of 240,000 CFA francs and work for their host establishment for the duration of the course.

With respect to the face-to-face tuition, this arrangement would work to each party's advantage:

- The company would have the services of an information worker for six months without having to pay any extra wage costs or being under any obligation to hire the worker once the course was over.
- EBAD would generate extra financial resources thanks to the tuition fees, and could improve the quality of training by strengthening the practical side.
- Learners would have the chance to become acquainted with the realities of the world of work for the duration of the course, to put what they learnt into practice immediately, and, ironically, to enjoy close and personalised supervision by tutors via communication tools (telephone, discussion forums, e-mail, etc.) and field visits.

Of the 50 or so potential partners contacted, 19 establishments (public and private companies, associations, schools, international organisations and state bodies) agreed to take part in the experiment. EBAD then proceeded to enrol 20 of the 30 prospective learners who had submitted an application form.[17]

The course began in December 2001 with the learners attending a ten-day group seminar at EBAD designed to brief them on the host establishment's organisation and working procedures, to teach them the documentary techniques needed to become operational as fast as possible; and to give them a grounding in ICTs so that they could use those technologies as media for learning and communicating with EBAD tutors and as work tools for information resource management as soon as they were settled in at the host establishment.

After the group seminar ended, the learners were despatched straight to their respective host establishments where they were able to continue the course and immediately put what they had learnt into practice. During this phase, beyond exchanges in the virtual classroom, course tutors visited them in the field to check up on their learning conditions and what problems they were having.

After four months in the field, the learners returned to EBAD for a mid-course group session. Among other things, this session served to take stock of progress and to teach trainees the methodology they would need to draft a feasibility study to be presented to the host establishment at the end of the course.

Learner evaluation took place within the framework of examinations held in the EBAD premises, distance testing and a public dissertation presenting a documentary project together with a course report,[18] the latter before a jury of EBAD tutors, representatives from the host establishment and teachers from the National Institute of Documentation Techniques (*Institut National des Techniques de la Documentation*).[19] What was new at this level was the inclusion on the jury of people from the world of work, which enabled the dissertations to take professional concerns into account and to become more than just an academic exercise in style.

In June 2002, when the course came to an end, 17 of the 20 learners originally enrolled were awarded a business certificate as e-archivist/documentation specialists – an 85 per cent success rate. This in itself was hardly unusual at EBAD, because both first and second-cycle success rates there generally came to over 90 per cent. While EBAD graduates have been known to go years without finding a job, however, 1,4 of the 17 certificate holders emerging from this course were hired by the establishments where they had been placed for their training.

Drawing on the success of this experiment, in June 2003 the Higher Institute of Communication, Business and Management (*Institut Supérieur de la Communication, des Affaires et du Management*) in Antananarivo, Madagascar, launched an information management certificate. The following October saw the start-up of a business information and document management course at the Advanced School for the Science and Technology of Information and Communication (*École Supérieure des Sciences et Techniques de l'Information et de la Communication*) in Yaoundé, Cameroon. And the School of Information Sciences (*Ecole des Sciences de l'Information*) in Rabat, Morocco, decided to introduce four new certificate courses in information processing, archive management, information technologies and information management.[20] Sadly, for want not just of the necessary human and financial resources, but also, and above all, of the contacts needed to establish appropriate partnerships with the information science schools of English-speaking Africa, the reach of these courses is confined to the French-speaking world. Ultimately, though, it would be interesting to set up a consortium to produce a combined French- and English-language course. With lessons delivered partly in French and partly in English, such a course could help foster mutual understanding if not full-fledged bilingualism. Better still, graduates, no longer confined to a language zone, would have greater mobility in Africa; course content would be improved through drawing on a broader pool of teachers; and the course itself would be economically stronger by being able to target a wider market.

CONCLUSION

This kind of experience, combining a certificate course with work experience and the utilisation of ICTs, is relatively new to the French-speaking world and resembles the German block release system, known in French as the *système dualiste* (dual system). Demonstrating that continuing education and even initial training can be made compatible with work, it amounts to an interesting means of putting the concept of lifelong learning into practice in that it helps combine training with work. This system has opened up new horizons for the many information workers for whom the future in terms of their career and personal development prospects had previously seemed bleak. Without needing to stop work or leave their families for a long and costly stay abroad, they have been able to capitalise on a training course allowing them to close the gradually expanding gulf between the skills acquired during their initial training and the new needs emerging over time on account of the changes in their socio-professional environment. The use of distance learning has therefore enabled those taking part to strike a balance between the demands of their working lives, private lives and training, which is seldom possible within the conventional systems that often require one of those three elements to be sacrificed. Furthermore, the fact that this course calls for a fairly intensive use of ICTs ultimately helps prepare them better to meet the new demands of their professional environment and enables them to use those technologies to continually renew their knowledge by tapping into the resources available online. Finally, for those on initial training courses, the combination of business immersion and distance training has helped foster a better balance between training and work, and has enabled them to quickly

find a job. It must be said, however, that it is not easy to put lifelong learning – via the medium of ICTs, no less – into practice in an African context. But given the advantages it offers for individuals, for businesses and for society as a whole, efforts must be made to encourage its development, which will inevitably involve the introduction of special measures.

POLICY CONSIDERATIONS

- *Create local training centres*

  Efforts must be made to encourage the creation of local training centres that are suitably equipped with IT hardware and broadband Internet access, whose opening times fit in with employees' working hours, and that charge affordable admission fees. Apart from delivering ICT and ICT-based training, such centres could also serve as a community's portal to the Internet.

- *Promote adult education and training*

  It is important to carry out awareness-raising campaigns that target training centres, to encourage them to develop adult training courses; businesses, so that they allow their employees to take courses while continuing to work; and adults, to make them see the importance of upgrading and acquiring new knowledge.

- *Enhance research on experience validation*

  Experience validation is a new concept whose mechanisms are complicated to implement. Since Africa has no experience whatsoever in this field, it is necessary to build the required capacity by promoting training and research centred on this new body of problems.

- *Encourage the development of short certificate training modules*

  The e-archivist-researcher certificate has shown that a short certificate course with, *inter alia*, an ICT component, can help general higher education graduates easily find a job. Increasing numbers of these kinds of courses, in tandem with previous experience, definitely could be of benefit to people seeking work or an opportunity to retrain.

- *Foster partnerships between the worlds of business and training*

  The EBAD experiment has shown how partnership between businesses and the world of training can enable the use of a company's resources for training (computers in the workplace, virtual training courses, etc.) and, in return, provide the company with better-trained human resources already acquainted with the world of work and quicker to employ.

RELEVANT INTERNET SITES

FORCIIR project:
www.ebad.ucad.sn/forciir/

Site with information on lifelong learning:
www.educnet.education.fr/dossier/eformation/vie.htm

EBAD distance education courses:
www.ebad.ucad.sn/acces_dedies/ufadis/portail.htm

AUF French-speaking digital campuses:
www.refer.org/

AUF distance education courses:
http://foad.refer.org/

Community multimedia centres:
www.unesco.org/webworld/cmc

World Bank's Global Development Learning Network (GDLN):
www.gdln.org/

RESAFAD network:
www.resafad.net/

African Virtual University:
www.avu.org/default.asp

World Links:
www.world-links.org/

Internet in Africa:
www.aedev.org/article.php3?id_article=69

Site with information struggle against the digital divide:
www.dsf-fsn.org/

Site with information non-formal education via ICTs:
http://portal.unesco.org/education/fr/ev.php-URL_ID=30233&URL_DO=DO_ TOPIC&URL_SECTION=201.html

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Notes

1. For some, broadband means connection via cable, ADSL and other technologies at speeds starting at 512 kilobits per second (kbps) and over; for others it means speeds that start at 1 or even 2 megabits per second (Mbps).

2. Republic of Sénégal. Lettre de politique sectorielle: Secteur des télécommunications. January 2005

3. The absolute poverty line stands at US $1 per person per day.

4. Source: UNESCO Institute of Statistics, September 2004

5. World Links: *www.world-links.org*/

6. GDLN: *www.gdln.org/*

7. RESAFAD: *www.resafad.net/*

8. AVU is now an NGO based in Nairobi (Kenya).

9. AUF catalogue of online courses (French only): *http://foad.refer.org/*

10. EBAD first emerged as an institute at Dakar University in 1967, taking over from the Centre régional de formation des bibliothécaires de langue française (CRFB), which operated in Dakar, with UNESCO's support, from 1963 to 1967. It subsequently went on to perform a subregional function, drawing students from sub-Saharan countries from Cape Verde to Madagascar.

11. The approximate rate for 1€ was 655, 957 CFA Franc in the spring of 2005.

12. Some years – 1999-2000 or 2002-2003, for instance – there was not a single foreign final honours student enrolled.

13. In the framework of this project a local network consisting of 54 connections was installed. In addition, an effort was made to install computer equipment: to install one computer in every teacher's office; one computer in every administrative office; to equip a computer room for students with 10 computers; and to install 5 computers in the library for online and offline documentary research.

14. The FORCIIR Project has funded a variety of courses for training EBAD teachers in the use of tools such as PowerPoint or in electronic resource design, project management, time management and even change management.

15. The learner's guide divides into four parts containing course plans, lesson and assessment schedules, data on every learner and a toolbox of software, plug-ins, tips and so on.

16. Every learner must pay a share of the admission fees at Université Cheikh Anta Diop de Dakar, i.e. 5000 CFA francs for Senegalese citizens and 300,000 CFA francs for foreign students, plus 450,000 CFA francs in tuition fees for all learners regardless of nationality.

17. The candidates selected each had a master's degree and had been looking for their first job for more than three years.

18. The courses had a coefficient of 1, while the project had a coefficient of 2.

19. INTD is a French institution specialising in training information science workers and involved in co-operative activities with EBAD.

20. All four of the ESI courses last eight months, not six.

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CHAPTER 6

THE CHINESE APPROACH

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CHAPTER SUMMARY

China is putting great efforts into developing ICT-based distance education (DE) and e-learning as a way of meeting the growing demands for higher education and the need for qualified personnel in a rapidly expanding economy. In this process the government – in particular the Ministry of Education (MoE) – is playing a strong steering and co-ordinating role. This chapter describes the general context of these developments, the challenges involved, the ways in which ICT-based DE and e-learning are organised and operated, and the intended future course of Chinese mass higher education (HE) and lifelong learning using ICT. For countries that are at a similar stage of development in these areas, and where the governments can play a similar steering role, the Chinese case offers some valuable policy lessons.

LIFELONG LEARNING FOR ALL IN A LEARNING SOCIETY

China, with its population of over 1.3 billion, is undergoing massive social and economic changes, moving from a planned to a market economy, pursuing rapid technological development and increasingly opening its doors to the outside world. As part of this process the Chinese government has embraced the vision of lifelong learning for all in a learning society. In China, in accordance with the statement made by *the Report of the Sixteenth CPC's National Conference* (CCoCPC, 2002) and the *New Action Plan for Invigorating Education (2003-2007)* (MoE, 2003a), the lifelong education system will be combined with the national education system (i.e. formal education provided by various kinds of schools, colleges and universities, usually under the guidance of the MoE) to form a modern education system within a learning society in China as shown in Figure 6.1. Thus, lifelong learning is defined as an activity whereby individuals are able to choose learning resources and strategies based on their career requirements and personal needs, and to engage in learning at any time, in any place and with any curriculum. In the implementation of this vision of lifelong learning, ICT-based DE and e-learning are playing and will continue to play a key role. Since 1998, China has initiated two great programmes known as modern distance education and e-learning.

The term modern distance education (MDE) means the provision of ICT-based distance education using multimedia computer facilities and the Internet as the core technologies for off-campus learners. The term e-learning refers to the integration of ICT with curriculum reform and pedagogical innovation in teaching and learning for all sectors of formal education, continuing education, in-service training and lifelong learning. The term online education college (OEC) designates a college providing MDE programmes attached to campus-based universities.

Figure 6.1: *Basic structure of a lifelong education system within a learning society*
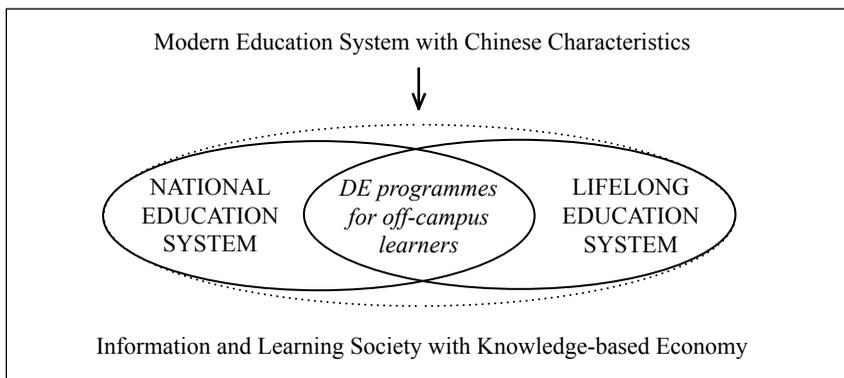
MDE can be considered the latest of three phases in the Chinese system of distance HE. In the first phase starting in the early 1950s, DE was by correspondence; from the 1960s radio and television began to be used; and the end of the 1990s saw the beginning of the use of ICT including Internet in HE. HE is one of the areas that are being affected by the new technology – including, of course, distance HE for the lifelong learner. At present, due to a shortage of education resources, only about 10 per cent of school-leavers can be enrolled in colleges or universities (DDP of MoE, 2003), and consequently there is intense competition for university places. For mature students wishing to study for degrees or diplomas, the opportunities are even more limited. In this situation MDE is believed to be a fast and cost-effective way to ease the pressure (Ding, 1994, 1995, 1999a).

As China proceeds to develop its capacities in this area, it has assigned a central steering and co-ordinating role to the state. Over the past few decades strategic guidelines for educational reform and development in China have been formulated at various political levels from the Central Committee of the Communist Party of China (CCoCPC) downwards, with the MoE having a key function in the process. For example, the *Action Plan for Invigorating Education towards the Twenty-First Century (1998–2002)* formulated by the MoE (MoE, 1998) pointed out that "extensive use of modern information technology in education will engender profound changes in the educational sector, and lifelong education will be a requisite condition for both educational development and social progress…". The *Decision* made by the CCoCPC and the State Council (SC) (Chinese central government) at the Third National Meeting on Education in 1999 (CCoCPC & SC, 1999) reconfirmed that more importance should be attached to MDE. It should be thoroughly modernised, and the use of ICT in education should also be promoted (Ding, 1999b, 2001a).

The government thus plays an overseeing and co-ordinating role, setting the overall guidelines and priorities for educational policy-making and striving to ensure that

educational development proceeds in an integrated way with innovations in science and technology, economic growth and social change. Over the past few years, the Department of Higher Education of the MoE has issued a package of policies and regulations relating to MDE, including quality norms for MDE, criteria for the approval of OECs and local study centres, and measures to facilitate online registration, tuition, learning and credit recording. In addition the government promotes the building of adequate infrastructure, provides varying degrees of financial and technological support, deploys educational resources where they are needed and authorises corporate involvement in educational projects. Increasingly the Chinese government is working in partnership with private-sector educational institutions and providers, both within China and internationally.

THE RECENT DEVELOPMENT OF ICT-BASED MDE AND LEARNING

Before looking in greater detail at how ICT-based MDE and e-learning are organised in China, it may be useful to outline the current state of ICT provision in the country. Some 94 million people in China became Internet users by the end of 2004, according to the *Fifteenth Statistical Survey Report on Internet Development in China* by the China Internet Network Information Centre (CNNIC), published in January 2005 in Beijing (CNNIC, 2005), representing a yearly increase of 18.2 per cent since 1997. Among them, the number of broadband users was 42.8 million. In addition, the number of computer holders in China has risen to 41.6 million, an increase of 14.6 per cent over the past 6 months. The number of domain names and Web sites registered under ".cn" was 432,077 and then 668,900, increasing by 50,000 and 43,000 respectively within the period of six months.

Thus ICT and the Internet are taking an increasingly important role in modern Chinese society. Distance education and e-learning, along with other e-industries including e-commerce, e-publishing, e-advertising, e-entertainment and so on have all been developed rapidly in China. The *Report* mentioned above indicates that the Internet has become the main source of information for 98.5 per cent of all users.

Despite these rapid advances, there is still a big digital divide between China and the major western developed countries. The International Statistical Information Centre (ISIC) of the National Bureau of Statistics of China (NBSC) published its *Research Report on Information Capacity Building in China* in 1999, included a ranking of 28 selected countries in the world. The US was ranked number one, Japan number two, and China was ranked last, just ahead of Pakistan (ISIC of NBSC, 1999). China, therefore, has a long way to go in regard to ICT capacity. In addition there is an internal digital divide within China, which will be mentioned later.

At present, China's distance HE system has basically three components (Ding, 2001b, 2002):

1. Single-mode, which is provided through printed, audio-visual, TV-based and Web-based transmission, run independently by a national system of RTVUs, with the CCRTVU as its headquarters.

2. Dual-mode, which is a mixed provision, offered by the regular, campus-based institutions of HE. It includes MDE, correspondence education and other modalities.

3. Consortium-mode, in which DE is provided by various kinds of consortia, e.g. partnerships between universities and IT companies, consortia of regular HEIs and joint provision by single-mode and dual-mode institutions. For instance,

the National Networked Consortium for Teacher Education (NNCTE) and the National Networked Consortium for Agricultural Science and Education (NNCASE) were set up in 2003. Consortium-mode DE in its various forms is now a rapidly growing trend.

In September 1998, the MoE granted MDE licenses to Tsinghua University, Beijing Post and Telecommunication University, Zhejiang University, and Hunan University as the first batch of HEIs pioneering MDE. In the same year the number of students enrolled in MDE with these four universities reached 9000. In 1999 Beijing University and the China Central Radio and Television University (CCRTVU) were added to the pioneer list. By the end of 2003, the MoE had issued MDE licenses to 67 pilot campus-based universities as well as to the CCRTVU. There are 2347 study centres distributed all over the country covering 153 specialties from 10 study fields for 67 pilot universities. The CCRTVU, like other online education colleges, is moving to MDE at the same time. Since 1999, the CCRTVU has been providing MDE through 44 provincial RTVUs, 930 city branches and 2021 county-level sites and 22,237 study centres (ICEM of CCRTVU, 2003).

In deciding whether HEIs should be granted MDE license within the pilot scheme, the MoE used five basic criteria. (1) The institution had to be a well established college or university with a high-quality teaching staff. (2) It needed to have a campus with good networking infrastructure. (3) It had to have good online teaching resources. (4) It had to demonstrate solid prior experience in using ICT in education. (5) It was necessary for the institution to submit a detailed and convincing plan for future implementation of MDE.

The pilot universities in this initiative have been empowered with great autonomy in selecting students, deciding the level of enrolment, opening up new specialities, and issuing academic credentials acknowledged by the MoE. Currently, the MDE programmes are mainly offered at three levels: (1) undergraduate programmes; (2) postgraduate programmes for Master's degrees; (3) vocational diplomas (Zhang, 2004).

THE LEARNERS

By the end of 2003, there were 2.3 million enrolments registered for MDE programmes in 68 pilot universities and some 90 per cent of them were in-service adult employees (Zhang, 2004). Table 6.1 shows the enrolments for MDE programmes in 68 pilot universities over the period 1999-2003.

Table 6.1: Enrolments for MDE Programmes in 68 Pilot Universities 1999-2003

(IN TEN THOUSANDS)

	1999	**2000**	**2001**	**2002**	**2003**	**Total**
67 campus-based universities	2.3	2.1	18.4	27.4	31.6	79.8
CCRTVU	2.9	16.4	27.2	40.1	62.6	149.2
Total	3.2	18.5	45.6	67.5	94.2	229.0

Of these students, 57.8 per cent are registered for undergraduate courses, 41.7 per cent for vocational courses, and only 0.5 per cent for postgraduate courses.

According to the regulations on MDE issued by the MoE, the pilot universities have the autonomy to decide their own access policies. If they wish they can conduct a free entrance policy without any testing systems, only checking the applicants' graduation

certificates from their senior secondary schools. However, most pilot universities have chosen some kind of entrance examination system. Some of them run independent testing systems; others do it collaboratively. A number of pilot universities ask the applicants to take part in the National Unified Entrance Examinations for HE organised by the MoE, one for regular HEIs and the other for adult HEIs. Generally speaking, students opting for an MDE course through an OEC of a pilot university have lower scores in the national examinations than those entering the same university to take on-campus courses.

INVESTMENT AND COSTS

The MoE is in charge of the development of MDE. The strategy for developing MDE is characterised by government support in the initial stages and self-financing in the long run. Thus the MoE contributed 200 million yuan RMB for restructuring CERNet (Chinese Education & Research Network) and CEBSat (Chinese Educational Broadcasting satellite), and 40 million yuan RMB for developing Web-based resources of more than 300 online courses to support the pilot programme of MDE by the end of the 1990s. In addition, the CRTVUs' system had contributed 3 billion by the end of 2003. Later on, the OECs of 68 pilot universities (including CCRTVU) run the MDE programmes on a self-financing basis. The main revenue comes from tuition fees from students. There are basically two systems of tuition fees. One is credit-based, the other is year-based. On average, tuition fees range from 80-150 yuan RMB (approximately US $9.6–$18) per credit or 3000 – 12000 yuan RMB (US $363 – $1452) per year. Some universities have adopted a special policy by which tuition fees for learners in Western China, for example, were only half of those charged in Eastern China. However, generally speaking, the tuition fees for MDE learners are higher than for those studying on-campus in the same universities. The reason for this is partly because universities are able to obtain revenue from central or provincial government budgets for on-campus learners, but not for MDE learners.

In the case of the 68 pilot universities, most of these co-operate with companies and social organisations in developing their MDE programmes. Furthermore, since corporate involvements were permitted by the MoE, there have been more than 1840 million yuan RMB (US $222.5 million) invested from social capitals. The CCRTVU and its partner for providing Internet services have invested a total of 3000 million yuan RMB (US $363 million) for the information infrastructure (Zhang, 2004). In addition to the pilot universities, numerous IT companies and e-learning Web sites have been initiated. Although these are not authorised to award degrees or diplomas in higher education, they provide a wide range of training programmes for in-service learners and also play a valuable role in the technological development of e-learning systems.

INFRASTRUCTURE DEVELOPMENT

The rapid development of e-learning as a major part of higher education in China is heavily dependent on the advancement of the e-learning infrastructure and has benefited greatly from government policies targeting e-learning development, including support for MoE-initiated projects. In addition, e-learning development has increasingly involved co-operation with enterprises in the private sector, and most of the e-learning program providers have benefited from such co-operation.

The e-learning infrastructure consists of: (a) a national network acting as a backbone structure for the delivery and sharing of learning resources; (b) the broadcasting network using a mixture of new and more traditional DE technologies and serving as an

important resource for undeveloped areas; (c) the campus network of e-learning sites. As the backbone of e-learning resources delivery, the China Education and Research Network (CERNet), which started in 1994, has reached 2.5-GB wideband for stem links. Figures for 2003 indicate 1200 universities with 30 million users connected across 220 cities. Meanwhile, CERNet2 has been running on a pilot basis. The blend of relatively traditional DE technologies and e-learning is proving especially useful for the delivery of e-learning resources to far-reaching areas. For example, the China Education Broadband Satellite (CEBSat) provides 8 TV channels, 8 voice channels and 20 IP data channels for e-learning delivery.

The campus networks constitute the main e-learning sites across the country and are able to function as virtual universities through the use of the CERNet. Since the Digital Campus Project was initiated by MoE in 2001, more than 1200 universities/colleges have built campus networks, and 80 per cent of universities are connected with CERNet. Various educational institutions have also built school or classroom networks, which are connected with CERNet. As for the undeveloped areas, especially in Western China, there are special funds available for educational institutions to build campus networks as e-learning sites, in order for them to join the e-learning system. This is an example of a policy that is playing an important role in bridging the digital divide.

DELIVERY AND LEARNING MODELS

In the third phase of distance education, e-learning in China is blending ICT with traditional DE technologies. The main e-learning delivery media include Internet, satellite, broadcasting and television systems, CD-ROM and even printed materials. For example, the e-learning system of the CCRTVU is shown in Table 6.2 (Zhang, 2004).

Table 6.2: *The e-learning systems of the CCRTVU*

TYPE OF SYSTEM	NUMBER OF USER INSTITUTIONS
Campus network	847
Receiver system for satellite analog signals	1216
Receiver system for digital IP information	900
Vertical Blanking Interval (VBI) receiver	867
Classroom network	8878

Commensurate with the diversity of delivery methods, the learning models used are also diverse. Basically, two instructional delivery models are popularly adopted, one is the remote classroom teaching model, and the other is the autonomous learning model. In the remote classroom teaching model, an instructor gives a presentation on campus and the presentation is delivered to remote learning sites through digital satellites or an interactive video conferencing system. Meanwhile, students at remote learning sites watch and listen to the presentation, ask questions, and get immediate feedback from their nearest learning sites. Furthermore, the remote classroom teaching model is accompanied with asynchronous discussions among students and/or between students and the instructor. Learners can also browse learning resources, take online quizzes and submit assignments through the network. The staff in local learning sites are responsible for technical support, practical supervision, and the organisation of final examinations. In the

autonomous learning model, the course presentations are pre-recorded on CD-ROMs and then mailed to the remote learning sites or learners directly. Similarly, learners can have online discussions with their peers and/or instructors.

Apart from the presentations through broadcasting and CD-ROM, group learning and face-to-face tutorship are also important learning models. According to a recent survey, more than 90 per cent of e-learners have the opportunity to acquire a face-to-face tutor, and more than 80 per cent have at some time taken part in learning groups.

THE MOE-INITIATED PROJECTS

As previously mentioned, the MoE has launched a series of national projects in the recent years to promote the development of e-learning in China. These range from infrastructure development and technology to the content of e-learning resources and curricula. This section briefly describes some of these projects.

The MDE Project

This project, initiated by the MoE in 2000, includes four sub-projects:

- Online course construction for higher education: The primary goal of this sub-project is to build up approximately 200 online courses, as well as their supporting case bases and test bases in two years. These online courses can be accessed and utilised by both learners and teachers at a distance. The cases can be used as study examples, and the tests are for learners' online practice and diagnosis. The first pilot started in 2000, and since then 321 online curricula have been developed. The second round started in 2003 with a target to develop 1500 high-quality online-curricula by 2007. Meanwhile, 10,000 teachers have been trained in the development of online curriculum. To date, 68 cyber-education institutions have developed more than 9338 online courses.

- Online educational resource construction for adult education. This sub-project aims at collecting, designing and developing online educational resources, as well as providing instructional support and management for adult education.

- Online education resource construction for basic education. This is an initiative to develop two complete online courses (English language and information technology) and case bases for other subjects. A resource gateway for basic education will also be established.

- Online training for in-service school teachers. The main objective of this sub-project is to develop 35 online training courses and their supporting materials for in-service school teachers.

More detailed information regarding the modern distance education project can be found on the Web site: www.cde.edu.cn/.

The e-Learning Technology Standardization Project

Hundreds of ICT companies are competing in the Chinese e-learning market. Consequently, many e-learning systems developed by various educational companies are experiencing difficulties in sharing resources and harmonising their systems owing to the different technological standards used. In 2001, the Chinese e-Learning Technology Standardization Committee (CELTSC) was established, which is responsible for developing a standardised framework for e-learning technology systems. Thirty target

standards have been proposed for the framework and eleven specifications have been published by the CELTSC. More information regarding the CELTSC and the project can be found on the web site: www.celtsc.edu.cn/.

The Digital Museum Project

This project was initiated by MoE in 2001, with the aim of creating shared digital museum resources, bringing together universities with particularly useful collections, such as Beijing University of Chinese Medicine for herbal resources, Beijing University for geological resources, Tsinghua University for art resources, Shandong University for archaeology resources and so on. Museums are an important university feature and play a significant role in teaching, learning and scientific research. The Digital Museum Project will support the digitalisation of these museums. To date, 18 Web-based museums have been established, which can been accessed through links available at: www.edu.cn/20020118/3018035.shtml.

Key Technologies for e-Learning Project

This project was initiated by the department of science and technology of the MoE in 2001 to develop a holistic e-learning technology facility. Its functions include tackling key problems, developing application systems and constructing e-learning demonstration. Many key developments for e-learning have been tackled in this project. They include linking up wire and wireless networks and integrating the two basic platforms of CERNet and CEBSat. Using this integrated platform, a holistic e-learning system has been constructed, in which synchronous teaching, asynchronous teaching, a learning management system, an e-education charging system, a testing management system and an educational resources management system are all interoperated harmoniously. As for the demonstration of e-learning systems, there has been a fruitful co-operation between Shanghai JiaoTong University, Xi'an JiaoTong University and Zhengjiang University, which started in June 2002, to facilitate mutual access to courses, credit recognition and the sharing of learning resources. Up to now 54 shareable courses have been developed in these three universities, benefiting thousands of students on and off campus. Furthermore these kinds of high quality resources have been made accessible free of charge to the Western universities, such as Xinjiang University and Ningxia University. More detailed information about the Key Technologies for e-Learning Project can be found at www.cutech.edu.cn/ chengguo/introduction/jihua/JP/default.asp.

PROBLEMS OF E-LEARNING

While it is clear that e-learning in China is playing a key role in meeting the demand for higher education, it is necessary to recognise that it involves certain problems relating to learners, teachers, learning resources and education quality.

Learner isolation

To most of the e-learners this is the last chance for them to receive higher education. A typical comment that one hears is: "I had to opt for cyber-education as I got a lower score in the national exam for university entrance." Clearly it will take some time for e-learning to become fully accepted alongside the more traditional forms of learning and for e-learners to develop the sense of belonging to a learning community. Other problems that they typically have to overcome include loneliness and lack of self-motivation.

Some information work is therefore necessary to improve understanding of e-learning and remove misconceptions. At the same time e-learners will need to have access to appropriate advice and assistance in making the best use of the system.

Inexperience of teachers

Among teaching personnel there is a widespread lack of understanding about e-learning and how to design and conduct ICT-based courses. Unaware that the new media demand innovative approaches and new teaching methods, many instructors simply make the lectures or other learning materials available on a server and leave the students to manage the online learning as best they can. Here again, much information and training work is necessary to create an adequately prepared teaching force.

Lack of quality resources

There is also a lack of materials suitable for online learning. In the absence of a learning community, face-to-face interaction, live discussion and so on, the learning resources should be specially designed to facilitate e-learning. Furthermore, other mechanisms should be integrated into the learning system to permit online discussion and create virtual learning communities. In addition, a lot more work should be done to promote the sharing of high-quality learning resources. As to the infrastructure resources on the learners' side, there is still much to be done in the area of network connection. Not all e-learners have adequate facilities to learn online at home, often lacking appropriate computers or wide-band network connections.

Difficulties of quality assurance

While e-learning is reaching out to increasingly large masses, it is important to pay attention to the qualitative as well as the quantitative aspect. While there are effective MOE regulations governing the quality of MDE for most of the pilot universities, some institutions tend to neglect the quality of teaching and learning. In dealing with this question it has to be recognised that the quality of learning for online students is in many ways different from the notion of quality that applies in traditional learning. How to define the quality of e-learning is, therefore, a challenge for e-learning institutions. Equally difficult problems are involved in the practical application of quality assurance, especially at a time of rapidly expanding enrolments in e-learning.

BUILDING A HOLISTIC LIFELONG LEARNING SYSTEM

The above-mentioned problems can best be solved within a holistic learning system embracing all phases of life, all sectors and all levels of education. Such a system would include a kind of "learning supermarket" where e-courses and other learning resources are stocked and shared, and where learners can choose courses and engage in learning, take part in tests and obtain credits. The different institutions involved in the system would be encouraged to work together so as to achieve optimum use of resources – for example, by setting jointly agreed quality standards, providing integrated e-library facilities and creating effective assistance and consulting services for learners. E-learning should be presented not as a complete alternative to campus-based formal education, but rather as a good modality for adult education and as one constituent in a lifelong learning system. Promoting this concept of e-learning would do much to remove the misunderstandings about lifelong learning that are common among both learners and teachers.

The development of e-learning within such as system will demand heavy investment. Government involvement will provide the basic infrastructure and network connections, and will carry out the basic work on accreditation, regulation and standardisation, to ensure educational quality. Public and private-sector capital will join with the e-learning institutions to develop high quality learning resources, and with the introduction of market mechanisms, more learning opportunities will be available for the low-income populations.

The development of standards-based resources is a key factor. The sharing of resources depends on the standards on which the resources are based. The framework of Chinese e-Learning Technology Standards has been established and will serve as a basis for further work in this area. Standards should also be applied in the building of e-learning resources.

These goals should be linked to an international vision of e-learning. International co-operation and communication should be emphasised, especially in the development of e-learning standards, the fostering of a new e-learning culture, and the advancement of e-learning technologies. Furthermore, co-operation in e-learning provision also should be considered. China will thus play its full role in promoting a global as well as a national strategy for lifelong learning.

POLICY CONSIDERATIONS

- *Infrastructure:* The example of China demonstrates how the government, through the MoE, can play a vital role in ensuring the development of an adequate and internally compatible infrastructure. The plan for such an infrastructure needs to be established at an early stage in the country's development of its ICT system.

- *Further role of the government:* The example of China also demonstrates how the government, through the Ministry of Education, can facilitate the development of e-learning through national projects, the content of e-learning resources and curricula, and the enabling technologies for e-learning. The government also plays the key role in e-learning resources accreditation, regulation and standardisation, to ensure the education quality.

- *Promoting synergy between universities:* Here again the Chinese example shows how the government can play a useful role by encouraging universities to co-operate and assist each other in their e-learning programmes by, for example, sharing research material posted on the Internet and providing access to each other's courses. A good example is the National Networked Consortium for Teacher Education (NNCTE), launched in 2003, which involves eight universities that have come together to provide teacher training through e-learning. More than 1000 courses are shared online.

- *Training of teachers:* The provision of training schemes for teachers is essential to an adequate functioning of ICT-based education. The Chinese example shows that, in a holistic e-learning system, teacher training should be taken as an integrated part, including the basic ICT skills, and especially the instructional design of e-courses

- *Outreach to learners:* As the Chinese experience demonstrates, many learners are ill-formed about e-learning or have a resistance to it. Those who attempt it often experience difficulties in getting used to it. Expansion of ICT-learning provision needs to be accompanied by public information about it and by providing counseling, help and support to students.

- ***Outreach to less-developed areas:*** As for the campaign to reduce the internal digital divide, the case of China illustrates the importance of this and provides some examples of workable ways of bringing e-learning infrastructure and content to the less-developed areas

- ***Co-operation between government and the private sector:*** What China's experience can teach in this area is to provide opportunities for the private sector to invest in e-learning resources building. This co-operation can also be important in the field of research, where the development of new technologies will benefit both sides of the partnership.

ACRONYMS AND ABBREVIATIONS

CCoCPC	Central Committee of Communist Party of China
CCRTVU	China Central Radio and TV University
CEBSat	China Education Broadband Satellite
CELTSC	Chinese e-Learning Technology Standardization Committee
CERNet	China Education and Research Network
CNNIC	China Internet Network Information Centre
DE	Distance Education
DDP	Department of Development and Planning
HE	Higher Education
HEIs	Higher Educational Institutions
ICEM	Information Centre for Educational Management
ICT	Information and Communications Technology
ISIC	International Statistical Information Centre
IT	Information Technology
MDE	Modern Distance Education (ICT-based Distance Education)
MoE	Ministry of Education
NBSC	National Bureau of Statistics of China
NNCTE	National Networked Consortium for Teacher Education
NNCASE	National Networked Consortium for Agricultural Science and Education
OEC	Online Education College
RMB	Renminbi (Chinese currency, yuan in unit)
RTVUs	Radio and TV Universities
SC	State Council (Chinese Central Government)

RELEVANT INTERNET SITES

CCRTVU Online: *www.open.edu.cn/*

China Central Radio and TV University: *www.crtvu.edu.cn/*

China Education and Research Network: *www.edu.cn/HomePage/english/index.shtml*

China Education and Research Network - CERNet:
www.edu.cn/HomePage/cernet_fu_wu/index.shtml

China Education and Research Network – e-Learning:
www.edu.cn/HomePage/jiaoyu_xinxi/index.shtml

China Education and Research Network – China Education – Higher Education:
www.edu.cn/HomePage/zhong_guo_jiao_yu/jiao_yu_yan_jiu/gao_deng/index.shtml

China Education and Research Network – China Education – Distance Education:
www.edu.cn/HomePage/zhong_guo_jiao_yu/jiao_yu_yan_jiu/yuan_cheng/index.shtml

China Online Education – China Distance Education:
www.chinaonlineedu.com/media/zx_dis_01.asp

China Online Education – Networked Education Colleges:
www.cer.net/HomePage/cer.net/jiao_yu/gao_kao/zhuanti/wangluo/index.shtml

China Education Television: *www.cetv.edu.cn/*

China Internet Network Information Centre: *www.cnnic.net.cn/en/index/index.htm*

Chinese e-Learning Technology Standardization Committee: *www.celtsc.edu.cn/*

Chinese Journal of Distance Education: *www.chinadisedu.com/*

Chinese Journal of Educational Technology: *http://cet.hedu.net/*

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CRI Online: *http://en.chinabroadcast.cn/*

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MoE of China – Policies and Regulations:
www.moe.edu.cn/eduoas/website18/level2.jsp?tablename=221

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National Centre for Educational Technology: *www.ncet.edu.cn/*

National Networked Consortium for Agricultural Science and Education: *www.uast.com.cn/*

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CHAPTER 7

QUALITY ASSURANCE SURVEY
OF MEGA UNIVERSITIES

Insung Jung

CHAPTER SUMMARY

Mega universities (i.e. those with over 100,000 students) are among the most important providers of distance education worldwide and are increasingly using ICT-based learning. Until recently they placed more emphasis on widening access than assuring quality, but now they recognise quality assurance as a key issue that needs to be addressed not only within individual universities but also jointly and in the global context. At the same time QA frameworks are at an early and therefore crucial stage of development. This chapter reports on a recent survey to examine and compare QA practices in mega universities and draws certain important lessons for the mega universities in the future development of effective QA policies. Where lifelong learning is referred to, this is understood as a process that people undertake to acquire knowledge, skills, and values needed for personal and occupational development throughout their lifetimes; often linked to adult learning.

BACKGROUND

Over the past few decades, there has been a noticeable growth in distance education (DE) around the world. More than 10 mega universities have been developed to meet the increasing educational needs of adults and lifelong learners.[1] A mega university is defined as "a distance teaching institution with over 100,000 active students in degree-level courses" (Daniel, 1996: 29). Some mega universities such as Anadolu University in Turkey and China Central Radio and TV University in China have over 500,000 active students. Considering the high level of student enrolment, the mega univerisities are becoming "very important for the future of higher education (HE) all over the world" (Daniel, 1998), including HE as part of lifelong learning.

In parallel with the development of mega universities, cross-border DE has grown. For example, universities in Australia, UK, USA, and Canada have actively exported their DE programmes to other parts of the world. China, Hong Kong (China), India, Malaysia and Singapore in the Asia-Pacific region have been among major importers of those

programmes. However, among those importers, Hong Kong (China), India and Malaysia have also exported their programmes to other countries such as Bangladesh, China, Indonesia and Sri Lanka (Jung, 2004a).

Moreover, many conventional DE institutions have begun to introduce information and communication technology (ICT) mainly as supplementary modes of instruction. Some institutions including a few mega universities have created e-learning programmes. Examples include the e-MBA programme of the Anadolu University in Turkey, the online Lifelong Education Graduate School at the Korea National Open University in Korea, the online MBA of the Athabasca University in Canada. Besides these institutions, for-profit e-learning providers have appeared in the DE market. In the Asia-Pacific region, main providers of e-learning include Thomson Learning, Apollo International and UNext.

These trends challenge the existing quality assurance (QA) frameworks of DE, which have focused more on widening access than on assuring quality, and often do not address for-profit and cross-border education. Especially in the context of growing globalisation in distance education, there has been an urgent need for international initiatives to review quality assurance mechanisms of DE for higher education at the national and institutional level, discuss new challenges of a changing DE environment, and build a capacity for QA to enhance the quality provision in a globalised higher education market. QA in mega universities is considered to be especially important since those mega universities provide higher education to millions of students around the world with collaboration or in competition with for-profit or cross-border providers.

Recently, several studies have attempted to evaluate QA systems of DE for higher education at the national or institutional level and discuss issues related to QA with the emergence of virtual universities or e-learning programmes (for example, Jung, 2004a; 2004b; UNESCO, 2003; and OECD, 1999). Moreover, international organisations such as UNESCO, Commonwealth of Learning (COL), OECD and World Bank have suggested QA guidelines for distance education and/or cross border higher education.[2] These studies reveal that the QA frameworks of DE in a globlised context are still in the early stages of development. The studies also indicate the need for investigating a wide range of QA practices in different contexts of distance education and discussing QA matters in depth at the international level.

SURVEY OVERVIEW

The present chapter aims to report the results of a survey[3] on QA practices in mega universities, discuss the convergence and diversity of those QA practices, and draw policy considerations for other distance education institutions. Even though the terms for quality assurance in distance education vary across mega universities, in this report, the terms are used as defined below.[4]

Objectives of the survey

There were two practical reasons for conducting the survey. The first related to the 2003 World Summit of Mega Universities on Innovation and Collaboration – Joint Action for the Future of Distance Education (Shanghai, China, 6-7 November 2003), which raised the need for information sharing on QA systems in the mega universities. This survey was a follow-up action requested by the mega universities at the Summit. The second was to report QA practices and issues in the mega universities at the Second Global Forum on International Quality Assurance, Accreditation and the Recognition of Qualification

(Paris, France, 28-29 June 2004) in pursuit of empowering participants for informed decision-making and providing an opportunity for capacity building for quality assurance to enhance the quality provision in an internationalised DE market.

Key aspects of the survey included QA organisation, QA policies, QA methods, objectives of QA activities, QA areas and criteria, QA system for imported/exporting distance education programmes, QA system for e-learning, and link to national QA frameworks for distance education.

Participants in the survey

The survey, conducted between May and early June 2004, was sent out to the presidents (or vice-chancellors) and/or the heads of QA units in 11 mega universities in different regions. Those 11 mega universities included the Allama Iqbal Open University (AIOU, Pakistan); the Anadolu University (Anadolu, Turkey); the China Central Radio and TV University (CCRTVU, China); the Indira Gandhi National Open University (IGNOU, India); the Universitas Terbuka (UT, Indonesia); the Korea National Open University (KNOU, Korea); the Payame Noor University (Iran); the Sukhothai Thammathirat Open University (STOU, Thailand); the Open University (OU, UK); the University of South Africa (South Africa); and the Shanghi TV University (SHTVU, China). Table 7.1 shows profiles of nine mega universities that responded to the survey questionnaire.

Table 7.1: Profiles of the Nine Mega Universities Participating in the Survey

INSTITUTION	YEAR OF ESTABLISHMENT	NUMBER OF DE STUDENTS	NUMBER OF ACADEMIC STAFF		NUMBER OF ADMINISTRATIVE STAFF
			FULL-TIME	PART-TIME	
AIOU (Pakistan)	1974	456,126	145	23, 000 *(tutors)*	1,426
Anadolu (Turkey)	1958 *(1982 named Anadolu)*	884,081	1,729	653 *(tutors)* 300 *(lecturers)*	1,763
CCRTVU (China)	1979	2,300,000	52,600	31,500 *(tutors)*	16,500
IGNOU (India)	1985	1,013,631	339	35	1,337
KNOU (Korea)	1972	196,402	271	108 *(tutors)*	546
OU (UK)	1969	203,744	1,169	7,995 *(Associate lecturers)*	1,434 *(Academic-related staff)* 2,139 *(Secretarial, clerical, and technical staff)*
SHTVU (China)	1960	101,218	*Info. Not Given*	*Info. Not Given*	*Info. Not Given*
STOU (Thailand)	1978	181,372	375	*Info. Not Given*	904
UT (Indonesia)	1984	222,068	762	3,600 *(tutors)*	730

SURVEY RESULTS

QA structures and policies

To assure the quality of its services, an institution as a whole must have a set of policies and structures to direct organisational activities. The mega universities surveyed have different types and levels of organisational structures and policies on QA.

QA organisational structures

QA organisational structures in the mega universities can be categorised into three types: a centralised QA structure, a collective QA structure, and a dispersed QA structure. The following is a discussion of the different types of QA organisations in nine mega universities.

A centralised QA structure: Several mega universities have set up a centralised total quality management system to co-ordinate and oversee the implementation of QA activities university-wide based on policies and guidelines formulated by QA-related boards or committees. Those centralised units are operated based on university revenue. Examples include UT (Indonesia)'s QA Centre, STOU (Thailand)'s Educational QA Co-ordinating Centre, AIOU (Parkistan)'s Research and Evaluation Centre, and OU (UK)'s QA team and a Pro-Vice-Chancellor for Learning and Teaching.

A collective QA structure: A QA system of some universities has been set and run by the boards, the councils, and/or the committees rather than an independent QA unit in administration. Each body has distinctive roles in different stages of QA processes or in different areas of QA activities. At IGNOU (India), School Boards, Planning Committee, and Academic Council are responsible for overseeing QA policies and implementations. At Anadolu (Turkey), University Senate, University Executive Board, Academic Advisory Board, Course Accreditation and Review Committee, and Instructional Design Committee play a significant role in QA and accreditation.

A dispersed QA structure: There are mega universities where QA is a part of the responsibilities of one or more related administration offices. At CCRTVU (China), units responsible for assuring quality of distance education include the Educational Administration Division, the Centre of Learning Support Service, the Centre of Examination, and the Academic Assessment Office. KNOU (Korea) has a QA system where quality is not a specified responsibility of any particular post or office, rather it is a responsibility of all related offices and academic divisions. SHTVU (China) assigns QA responsibilities to the Department of Teaching Affairs, but specific QA activities are assigned to all related units of the university.

QA policies and regulations

QA policies and regulations have been set in all the institutions surveyed. However, the degree of elaboration in those policies and regulations and the level of integration with the general university policy framework and the national QA framework vary across the institutions.

Complying with national standards: Three institutions have developed their QA policies and regulations in compliance with the national guidelines. For example, the QA policies and regulations at IGNOU are in conformity with the QA guidelines determined by the national QA agency, the Distance Education Council (DEC) of India. Anadolu's distance education programmes and courses comply with the standards and requirements of the Informatics National Committee. And OUUK's Qualifications Framework is consistent with the national "Frameworks for Qualifications in Higher Education and Credit Guidelines for HE Qualifications."

Developing own QA policies: Whereas, in some cases where the national QA framework for DE provides rather general guidelines or there is no national QA framework specifically for DE institutions, institutions have developed their own QA policies and regulations. Such examples include STOU, UT, AIOU, KNOU, CCRTVU, and SHTVU.

Examples of elaborated QA policies: As for the level of specification in QA policies and regulations, OUUK and UT provide good examples of an elaborated system. OUUK has developed the *Guide to Quality and Standards in the Open University* that provides a guide to the structural and procedural arrangements for internal quality assurance. This document aims to embed QA into OU's organisational structure, staff roles and process design, but yet allow flexible adaptations by each unit. UT has adopted the AAOU Quality Assurance Framework to develop the "Quality Assurance System for Universitas Terbuka". This new quality assurance system encompasses nine components and 107 quality criteria or statements of best practices. Each criterion is further delineated into indicators and methods of achievement. In addition, UT has developed 112 work manuals based on its quality system, outlining QA systems, procedures and assessment criteria. The manuals are used consistently by all the members of UT in carrying out their daily responsibilities, assessment forms were developed to monitor and assess tasks performed by individual staff, to support self-assessment of each unit, to record processes and outputs of the tasks, to identify problems, and to offer solutions.

QA objectives and methods

The survey shows that quality assurance in most mega universities has similar objectives, but is assessed by a variety of instruments and methods.

Objectives of QA activities

For most institutions, the predominant objectives of internal QA activities are self-improvement and accountability to the society in general and to the National QA authority in specific. Thus, the internal QA results are used both for self-improvement and/or external evaluation.

Accountability to society and QA authority: Heavy involvement of external experts is often observed in some cases where the primary objective of QA is accountability. IGNOU, being appraised by the Open and Distance Education Assessment and Accreditation Board of DEC at intervals of 5 years, integrates the prescribed norms and standards set by DEC in its internal QA system, and evaluates implementation of those norms and standards constantly with the help from external reviewers. An important driver in all the QA activities is external in nature at OUUK where QA results are used for the basis of public funding decisions. UT's external assessment has involved experts from the Directorate General of Higher Education on a semester basis, as well as from the National Accreditation Board of Higher Education on a three- to four-year basis.

Self-improvement: Feedback from internal and external reviewers and students are used to improve the quality of courses, programmes, materials and services of most of the distance teaching universities surveyed. IGNOU keeps all the records of discussions of various committees and experts to ensure that the recommendations of the committees and experts are incorporated in improving key aspects of its courses, programmes and services. AIOU puts a great emphasis on feedback surveys. The results of the surveys are used to improve quality of distance teaching and learning at AIOU. UT uses feedback and inputs from various sources including the top management for continuous improvement. At Anadolu, formal feedback is collected from teaching evaluation surveys and student questionnaires and the results from the feedback are used to improve its distance education. KNOU uses the results of student evaluation and expert opinions to improve the quality of its textbooks.

QA methods

A variety of QA methods are observed in the mega universities. The popular methods of QA include providing a wide range of opportunities for training workshops, conducting evaluation research, introducing internal review processes, and inviting external audits and assessments. In some cases, detailed guidelines or directions for assessing quality in selected key areas of distance education at the course and programme level are also provided.

Offering internal training and professional development opportunities: The most prevalent method of QA is to provide training and professional development opportunities to faculty and staff, including part-time tutors. The clearest examples are shown in several cases. OUUK specifies initial induction and training, and continuous staff development opportunities for its salaried staff, academic staff and associate lecturers in the "Guide to Quality and Standards". Formal training sessions, workshops, resources, moderated online courses and seminars are offered. SHTVU has offered a series of training courses to its young instructors, academic staff, and part-time lecturers covering topics in course development and learner support. Each institution at UT sets out personnel development programmes to equip its staff with competencies for effective task performance. IGNOU also provides orientation programmes for course writers, tutors, and counselors. Similarly, KNOU and AIOU organise a series of workshops on course development for teachers.

Involvment in international training workshops and conferences: Some mega universities go beyond internal training activities. For example, UT (Indonesia) has sent a selected number of its staff to a three month training workshop in the Netherlands in co-operation with the Netherlands' International Development Agency (NUFFIC) and Southeast Asian Ministers of Education Organization (SEAMEO) and other various international conferences, workshops and training sessions on QA. International organisations such as UNESCO and COL have provided online training manuals and face-to-face training opportunities to distance educators.

Evaluating and monitoring staff performance: Evaluation and monitoring of staff performance is another method to ensure the quality of distance education. AIOU monitors routine duties of its staff and also prepares a formal Annual Confidential Report that includes evaluation of staff performance by each section head in charge. CCRTVU uses feedback from teachers and students to assess the quality of courses and teaching activities. KNOU evaluates tutor performance based on students' evaluation of their services and tutorials. OUUK implements a period of probation to all staff joining the university. During the period, the head of each unit is required to carefully and continually monitor the work of probationers. The "Manual of Personnel Policies and Procedures" specify job evaluation policy and procedure of salaried staff and the "Associate Lecturer Handbook" clarifies appraisal system for associate lecturers. UT's evaluation system is rather extensive. It requests each unit to undertake self-assessment and self-monitoring. A university-wide quality audit team, then, visits all units and regional centres to assess their performance. The top management of the university is also involved in this evaluation process and examines the quality assurance report and provides feedback to all units.

Specifying steps in the course development process: The internal quality assurance system during the development of courses/programmes and materials is well integrated into the whole operations of most distance teaching universities. AIOU adopts a course team approach and a system for QA during the course design and development. CCRTVU

plans and produces its conventional DE courses, online courses, and materials following a standardised QA process to ensure the quality. Similarly, IGNOU introduces step-by-step course development processes and engages experts from all over the nation for the design and development of its courses and programmes, ensuring the quality of its teaching and learning materials. OUUK provides the Course Management Guide and adopts the course team approach in approving and developing courses. At UT, the course development process begins from an idea of programme development followed by a market survey or needs analysis. UT has specified a process of development and review of its courses. KNOU develops its textbooks employing a course team approach. Each course team consists of KNOU faculty, external content experts, distance education specialists, and textbook designers. Students' evaluation is sought as well. Anadolu assures the quality of its courses through the Instructional Design Committee. The Committee decides on a team of experts for the development of each course and facilitates communication among content experts, lecturers and students.

Reviewing learner assessment: The quality assurance procedure during assessment and examinations development is well laid out in a few distance teaching universities. OUUK operates an Examination and Assessment Board for every course. This board is responsible for the production of the examination paper, marking guidelines, the awarding of course results and other related matters. OU's assessment framework complies with the national Quality Assurance Agency's Code of Practice for Assessment of Students. At IGNOU, a marking scheme is prepared and made available to all examiners to avoid inter-examiner variability. AIOU reviews the process of student evaluation and makes suggestions for improvement. AIOU gathers evidence of course effectiveness from students and has developed a built-in mechanism of continuous course improvement. The Research and Evaluation Centre of AIOU carries out regular course evaluation studies.

Inviting external reviewers and experts: Involvement of external reviewers or/and experts during course development and material production is also a popular method of assuring the quality in most of the mega universities surveyed. KNOU, AIOU, IGNOU, UT, and STOU invite external experts in their QA processes. AIOU invites external experts during its formative or summative studies or feedback surveys. CCRTVU involves external experts, professors from national universities, and persons in charge of e-colleges to review its quality of programmes, courses, tutoring, and other services. OUUK seeks the three main external inputs to QA processes: the External Assessor for course in development, the External Examiner for examination at course level, and the External Advisor appointed at award level.

QA areas and criteria

The mega universities surveyed have developed QA criteria for key areas of distance education.

Key QA areas

OUUK and UT provide detailed criteria for each of their QA key areas. Most of the mega universities tend to have more detailed criteria especially for QA areas such as Programme/ Course Design and Development, Learner Supports, and Assessment. These areas are more directly related to student learning. AIOU, IGNOU, SHTVU, and KNOU put a great emphasis on QA in the areas of course/materials production and student support services. Table 7.2 below summarises the key QA areas of the mega universities surveyed.

Table 7.2: Key QA Areas

UNIVERSITY	KEY QA AREAS
AIOU (Pakistan)	• Courses and their effectiveness • Tutorial support system • Assessment system • Student problems • Methods of course production • Cost effectiveness of courses • Outcome of courses and programmes • Servicing/Operational departments • Administration
Anadolu (Turkey)	• Academic and professional enhancements of programmes and courses (specifics not given)
IGNOU (India)	• Needs and objectives of the programme • Content and level of the programme • Duration of the programme • Language of the course material • Presentation of the content • Transforming the content into distance format • Delivery of the programme • Assessment of students
CCRTVU (China)	• Policy and planning • Course design and development • Learner support services • Learner assessment • Media and technology • Unified requirements
KNOU (Korea)	• Learner support services • Tutorials • e-Learning • Textbook development • Broadcasting programme development
OU (UK)	• (The Guide to Quality and Standards covers eight fact sheets) • Institutional management of quality and standards • Framework for academic quality and standards • Internal review • Assessment and awards • Collaborative awards • Student support and guidance • Staff • Accountability to stakeholders

SHTVU (China)	•	Teaching
	•	Teaching affairs
	•	Academic staff
	•	Course design and development (texts and books, online courses)
	•	Students (learning resources, online courses, digital libraries, telephone, e-mail, BBS, i-class teaching platform)
	•	Media for learning (Internet, VOD, Video, Audio, Telephone, etc.)
	•	Study centres
STOU (Thailand)	•	No specific information given
UT (Indonesia)	•	Policy and planning
	•	Human resource provision and development
	•	Management and administration
	•	Learners
	•	Programme design and development
	•	Course design and development
	•	Learner support
	•	Learner assessment
	•	Media for learning

QA criteria

Detailed QA criteria are provided for several of the mega universities surveyed. For example, IGNOU lists QA criteria for developing DE materials in self-instruction mode. All materials to be transformed in the self-instructional mode have to meet the criteria of self explanatory, self contained, self directed, self-motivating, self-evaluating, and self-learning. The faculty members are requested to transform the content into distance mode and ensuring that the unit structure is followed: 1) introduction, 2) objectives, 3) content exposition, 4) revision questions, 5) in-text questions, 6) summary, 7) terminal exercises, 8) supplementary material, 9) assignments, 10) suggested readings/reference materials, 11) learning activities and 12) key words.

KNOU puts an emphasis both on content and instructional design of the materials. QA criteria for the content include: appropriateness of objectives, specification of objectives, accuracy and recency of the content and clear organisation of the content. QA criteria for instructional design include: appropriateness of teaching-learning strategies, effectiveness of utilising multimedia, appropriateness of screen interface, and convenience of course management. Other institutions have also devised similar detailed QA criteria for course development.

QA criteria during the delivery of DE programmes have been reported in a few cases including UT, OUUK and IGNOU. One example can be found at IGNOU. IGNOU has suggested QA criteria such as timely dispatch of course materials, training of tutors and

counselors in providing support to students, timely delivery of multimedia packages to study centres, regular tutorials and counseling sessions, timely feedback on assignments, timely response to student queries, feedback to students on their performance and progress and facilitation of peer group interaction.

OUUK provides detailed QA criteria for services to students in regional centres. All the regional centres need to carry out an annual review of key activities: course choice, enrolment and fees, careers guidance, outreach and promotion, preparation, induction and learning skills development, student progress and retention, special needs, examinations and assessment, and exceptions and complaints. The findings of these reviews are shared between regions. Other activities, managed centrally or regionally, are reviewed on an ad hoc basis from time to time. Examples include: support for students with disabilities, the promotion of equal opportunities, marketing and collaborative provision (OUUK, 2004).

QA for new challenges

It appears that the quality assurance of the cross-border operations and e-learning practices is still in the initial stages of development in most of the mega universities. However, the institutions seem to recognise the need for special attention to QA systems for those new challenges.

QA for cross-border activities

From the survey data, one can conclude that there has been no need for most of the mega universities to develop a comprehensive QA system for both imported and exporting distance education programmes. Only two mega universities reported the existence of the QA system for cross-border programmes.

Guidelines for exporting programmes: IGNOU, being an exporter of its DE programmes, has set QA guidelines for exporting programmes. First, the credibility of partner institutions is reviewed in collaboration with Indian High Commissions and Embassies abroad. Second, IGNOU approves local tutors and counselors appointed by the partner institutions based on their curriculum vitae. Those approved tutors and counselors receive training sessions on student support services from IGNOU faculty. Finally, the examination scripts are marked centrally by IGNOU to provide reliability of student assessment.

A comprehensive QA framework for export and import: OU specifies the arrangements for managing curriculum partnerships and collaborative provision in its Guide to Quality and Standards. As indicated in the Guide, the "Curriculum Partnerships Committee is responsible for all regulatory and procedural matters relating to curriculum partnerships and for their approval subject to approval by Curriculum and Awards Board at later stage". Operational Toolkit Series and Operational Fact Sheets are developed by the Curriculum Partnerships Advisory Service and provide advice, guidance and other information on curriculum partnership arrangements to all units of OU. These arrangements include both export and import.

Other examples: Some other institutions such as AIOU, Anadolu and KNOU offer DE programmes for own citizens living in different countries. For example, AIOU collaborates with the Commonwealth of Learning and national open universities of India, Bangladesh and Sri Lanka to offer COL Executive MBA/MPA programme. Anadolu

offers its programmes to Turkish citizens living in Europe and the programmes are produced under the similar QA guidelines with domestic programmes. KNOU allows ethnic Korean overseas to enroll in its DE programmes and provides its DE materials to ethnic Korean residents in China.

QA for e-learning

A separated QA system for e-learning has not been developed in most of the institutions investigated. Instead, most cases adopt the same QA criteria as they use in QA for conventional DE to assess and manage the quality of e-learning programmes or courses.

KNOU, however, has developed more detailed criteria to monitor the quality of its e-learning courses and services. Besides its conventional DE courses, KNOU has offered 60 online courses on the Web. Three QA measures are taken during the development and delivery of e-learning courses. First, before developing any e-learning course, a review team, consisting of content experts and design experts, will evaluate the appropriateness of e-learning development and objectives, accuracy of the contents, and structure of the contents. Second, the review team, once a certain course is accepted as an e-learning course, will assess its pedagogical strategies, multimedia components, user interface and course management functions. Third, two formal evaluation sessions will be administered during the development process. The e-learning site under development will be open to the pubic and the review team to be monitored. Comments from the public (including students) and the experts will be collected and used to improve the e-learning course.

Whereas KNOU has developed totally online courses, AIOU has adopted a QA process in developing multimedia contents for its courses. Even though some universities such as OUUK, CCRTVU, and SHTVU are actively incorporating e-learning components in their DE programmes, no specific QA measures for e-learning components have been provided. Anadolu University offers an e-MBA programme and is working on the details of a QA system for e-learning.

Links to national QA framework

Internal QA systems of most of the institutions surveyed have been linked to the national QA framework either for DE or for HE in general.

Developing national QA framework for DE

Turkey and India have a separate committee or agency for assuring and managing the quality of DE.

Anadolu reports that its QA system complies with the standards and requirements of the national QA body for distance education, that is, the Informatics National Committee (www.ii.metu.edu.tr/EMK/enfyoneng.htm). This committee is a sub-committee of the Higher Education Council which oversees the quality of higher education in Turkey.

IGNOU follows the standards and guidelines for quality assurance determined by the national QA agency for DE, that is, the Distance Education Council (DEC: www.ignou.ac.in/dec). The faculty of IGNOU has worked very closely with this Council in developing the standards and guidelines in DE.

Adopting national QA framework for HE

Other countries adopt the QA system for higher education (HE) to oversee and monitor the quality of DE institutions. OUUK's QA system is closely linked to the national QA framework for universities and colleges. OUUK is subject to at least three forms of external assessment undertaken by the Funding Councils and the Quality Assurance Agency for Higher Education. Three kinds include assessments of: 1) subjects or teaching, 2) research, and 3) institutional performance and management. The first two are undertaken by the Funding Council for England, the last by the Quality Assurance Agency for Higher Education.

UT programmes are accredited by the National Accreditation Board of Higher Education and have been assessed by the Directorate General of Higher Education using the "QA Guideline for Higher Education". In the near future, however, a new "Government Regulation on Distance Education" will be established and applied to the assessment of distance education programmes in Indonesia.

Other distance teaching universities such as CCRTVU, SHTVU, STOU and KNOU are also evaluated by the national QA body for HE. Separate evaluation criteria for assessing the quality of DE have not been reported in these cases.

Complying with international QA framework

Besides a close link to the national QA framework, UT is developing QA systems to acquire ISO certification. UT is also in the process of seeking international accreditation and quality certification from the International Council for Open and Distance Education (ICDE).

CONCLUSION

A quality culture can be defined as an institutional culture that promotes the introduction of an internal QA system, values the capacity building for implementing QA arrangements, stresses the link between the internal QA system and accountability to the public at the national and international levels, and focuses on learning rather than teaching. The survey results show that a quality culture has been emerging, if not fully integrated, in the mega universities investigated. All the mega universities have developed and implemented QA standards and procedures in key areas of distance education activities and at least four mega universities surveyed have institutionalised a central QA unit and thus sought the development of a more systematic and coherent quality culture. Another indicator for the emergence of a quality culture is capacity building efforts made by the institutions. At least half of the mega universities have provided continuous staff development opportunities to their academic and administrative staff in pursuit of quality improvement. It is found that international organisations such as UNESCO, COL, OECD and World Bank have provided useful QA guidelines and resources for distance educators. Moreover, most of the institutions have shown an aspiration of obtaining national recognition as a high quality DE provider. Some have gone beyond national level accreditation and recognition and pursued international recognition such as ISO certification for their services.

The survey also shows that there exists a variety of QA systems of distance education even though the globalisation and competitiveness of higher education and the development of technology have brought distance teaching universities closer together in terms of developing a common quality culture. The level of QA policy integration in an overall university policy framework varies across the mega universities. Some

mega universities apply a set of standards and criteria that are predetermined by the institution or by the national quality assurance agency to evaluate and monitor key areas of distance education, whereas other institutions provide only general guidelines for QA and leave room for the internal and external review teams or individual units to make QA judgments. Some mechanisms for assuring quality of distance education adopt rigorous internal QA measures, whereas in systems where the accountability concern does not dominate, the QA system is less centralised and the primary objective is self-improvement of institutions. Even though core areas – such as course and programme development and delivery − for QA are similar in most mega universities, some QA areas draw more attention than others. In some institutions, assessment of staff performance and tutoring services is emphasised, whereas in other institutions, learner assessment or monitoring of e-learning courses gets more attention.

POLICY CONSIDERATIONS

As indicated above, one of the purposes of this survey is to share one's QA information with other distance education institutions. Each institution can learn from the others. Although the survey itself does not suggest context-sensitive QA strategies for each institution, QA policy directions can be drawn from the QA experiences of the mega universities surveyed.

- *Addressing the challenges of cross-border and e-learning activities*

  The survey results show that the mega universities have often focused exclusively on assuring the quality of their own programmes and services delivered in their country. Increased cross-border distance education and e-learning activities present challenges for the existing QA policies. Moreover, the emergence of for-profit e-learning providers is also pressing on the existing QA structure of distance education institutions. There is a need to address the challenges of expanded cross-border and for-profit e-learning providers in reviewing the existing QA policies or establishing new QA policies in all distance education institutions.

- *Linking internal QA policies to broader QA frameworks*

  In a cross-border distance education context, learners can be distributed anywhere and education can be delivered to them wherever they are. In the not too distant future, people will be able to take one part of their course from one university, another part of their course from a second university, and yet another part of their course from a different university, either within their own country or abroad. To protect students from the risks of low quality programmes and education of limited national and international validity, QA policies of a distance education institution should be linked to the national and international QA frameworks.

- *Developing a comprehensive QA structure*

  Mega universities around the world are serving millions of adult students. In the future, distance education will certainly dominate the post-secondary arena and continuing education market of the professional development. There will be more and more requests to validate the credentials of distance education institutions and the quality of programmes and services in those institutions. To meet the demand for QA by its own students, a distance education institution needs to develop a more coherent and comprehensive QA organisational structure to co-ordinate and oversee the institution's various QA activities.

- *Assessing quality of students' learning*

  Even though more and more DE institutions are incorporating assessment of learning in their QA mechanisms, internal QA efforts in DE institutions have been focusing mostly on course and material development. There is a need to extend the internal quality audit to other areas such as learning outcomes and experience of learners. One can start by aligning four elements of DE: learning objectives, teaching and learning methods and technology use, learning outcome assessment, and learning experiences. DE institutions need to routinely assess the quality of distance learning based on the evidence of student achievement.

- *Paying attention to performance indicators*

  As seen in the survey, some DE institutions have developed performance indicators so that they can monitor their performance against organisational objectives and key principles of their plan. In the context of globalisation, international comparative indicators are becoming indispensable (Fielden & Abercromby, 2001). Distance education is not outside of this trend. DE institutions should pay more attention to the importance of performance indicators in meeting the needs of an international society.

- *Engaging in international activities related to QA issues*

  QA in distance education is not an institutional or a national issue anymore because distance education reaches beyond local and regional boundaries and new forms of DE provision are increasing. Distance education in a globalised context requires new QA mechanisms because the existing ones do not address the challenges of recent DE markets. There have been international debates on QA issues in distance education. As a result, several international guidelines, conventions and best practices have been developed and reported (see Note 2). However, we still need to ask whether these international efforts are sufficient to meet the need for commonly accepted conventions and standards of quality distance education. The key to successful quality assurance activities in the future lies in distance education institutions' commitment to international debates and international decision-making processes related to QA issues.

RELEVANT INTERNET SITES

The Commonwealth of Learning, Start-up guides and training resources
www.col.org/resources/startupguides/
This site provides an overview of open and distance learning and a series of training
handbooks on planning and implementing open and distance learning.

The Commonwealth of Learning, Perspectives on distance education: Quality assurance in higher education – selected case studies
www.col.org/10th/about/images/QA.doc
This document, edited by Alan Tait, introduces seven case studies of quality assurance
practices in distance education institutions. Many elements of quality assurance
systems are discussed in the case studies.

The Distance Education Clearinghouse
www.uwex.edu/disted/
This portal site brings together distance education information from different resources.
Terminologies and concepts, research papers, policies and guidelines, related Web links
and news updates are listed.

The International Review of Research in Open and Distance Learning (IRRODL)
www.irrodl.org/
IRRODL, published by Athabasca University in Canada, is a free online journal
aiming to disseminate scholarly knowledge in open and distance learning theories and
practices to distance educators worldwide.

OECD/US Forum, Trends and models in international quality assurance and accreditation in higher education in relation to trade in education services
www.oecd.org/dataoecd/51/29/2088479.pdf
This document, based on the discussions during the OECD/US forum on trade in
education services, introduces four possible models for quality assurance arrangements
that can contribute to transnational higher education services.

UNESCO/OECD Guidelines for quality provision in cross-border higher education
http://www.unesco.org/education/amg/guidelines
This document is a draft of UNESCO/OECD guidelines on quality provision in cross-
border higher education, resulting from three previous drafting meetings.

UNESCO, Higher Education Open and Distance Learning (ODL) Knowledge Base
http://portal.unesco.org/education/en/
ev.php-URL_ID=22306&URL_DO=DO_TOPIC&URL_SECTION=201.html
This site links to the cross-regional ODL Knowledge Base project which is set up
to support decision-makers and practitioners in more effective policy planning,
development and management of ODL in higher education.

UNESCO, The Virtual University and e-Learning
www.unesco.org/iiep/virtualuniversity/
This site contains the information of virtual university and e-learning cases worldwide.
There are three sections in the Web site: Web publication, forum, and relevant links.

World Bank, The Global Distance Education Net (Global DistEdNet)
www1.worldbank.org/disted/
This is a knowledge base in open and distance education to help distance educators
obtain information from research and practices.

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Notes

1. Daniel (1996) listed some 11 mega universities: Anadolu University (Turkey), China Central Radio and TV University (China), Indira Gandhi National Open University (India), Universitas Terbuka (Indonesia), Korea National Open University (Korea), Payame Noor University (Iran), Sukhothai Thammathirat Open University (Thailand), National Distance Learning Centre (Centre National d'Enseignement à Distance, France), Open University (UK), National Distance Learning University (Spain), and University of South Africa (South Africa). During UNESCO's 2003 World Summit of Mega Universities held in China, Allama Iqbal Open University (Pakistan), M.P.Bhoj (Open) University (India) and four more Chinese regional Radio and TV universities were also listed as mega universities.

2. QA initiatives or publications by international organisations include:

- UNESCO Guidelines on responsible partnerships between cross-border higher education, business and society
  http://portal.unesco.org/education/en/ev.php-URL_ID=21934&URL_DO=DO_TOPIC&URL_SECTION=201.html

- UNESCO/OECD guidelines on quality provision in cross-border higher education
  http://portal.unesco.org/education/en/ev.php-URL_ID=29228&URL_DO=DO_PRINTPAGE&URL_SECTION=201.html

- UNESCO Open and Distance Learning (ODL) Knowledge Base project
  http://portal.unesco.org/education/en/ev.php-URL_ID=22306&URL_DO=DO_TOPIC&URL_SECTION=201.html

- Handbooks for practitioners in open and distance learning (ODL)
  http://col.org/resources/startupguides/

- Perspectives on Distance Education: Quality assurance in higher education – selected case studies
  www.col.org/10th/about/images/QA.doc

- Policy for Open and Distance Learning

- OECD Forum on Trade in Education Services – Trends and models in international quality assurance and accreditation in higher education in relation to trade in education services
  www.oecd.org/dataoecd/51/29/2088479.pdf

- The Global Distance EducationNet (Global DistEdNet)
  www1.worldbank.org/disted/

3. The survey also gathered QA information on five other distance teaching institutions: Open University Hong Kong (Hong Kong, China), Open University Malaysia (Malaysia), Monash University (Australia), Athabasca University (Canada) and Pontifical Catholic University of Rio Grande do Sul - PUCRS (Brazil). However, for the purposes of this chapter, the survey results on these five institutions were not included.

4. In the survey, QA is defined as "planned activities carried out with the intent and purpose of maintaining and improving the quality of learning rather than simply evaluating activities" (Jung, 2004b: 6). And DE is defined as a form of education whereby students may complete all or part of their course of study in a geographical location apart from the education provider or the teacher. DE used in this survey includes three modes: a conventional mode of distance education in which printed materials, audio and video (or radio and TV), and/or face-to-face tutorials are used, an e-learning mode in which the Internet is used as the main delivery means of instruction and interaction, and a mixed mode that incorporates conventional media with the Internet.

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CHAPTER 8

THE HIGHER EDUCATION OPEN AND DISTANCE LEARNING KNOWLEDGE BASE

Zeynep Varoglu

SUMMARY

This article provides an overview of the UNESCO Higher Education Open and Distance Learning Knowledge Base (HEODLKB) project. This project was set up to support informed decision-making through information and tools for policy planning, development and management of open and distance learning (ODL) in higher education. The main focus of this project has been the development of decision support tools for quality assurance of distance higher education. This chapter provides background on the quality assurance of distance higher education and an overview of the decision-support tool in this area developed by the project. The chapter concludes with some policy considerations drawn from the experience gained through this project.

PROJECT OVERVIEW

The Higher Education Open and Distance Learning Knowledge Base (HEODLKB) addresses the growing interest in the use of open and distance learning to extend access to higher education in developing countries. This project responds to the need for better understanding on how open and distance learning functions, and addresses concerns regarding the quality of education provided through ODL. In particular it aims to provide decision makers with access to information that will assist them in ensuring that the policy, planning and management of ODL are conducted appropriately and efficiently.

Concretely, this UNESCO project[1] aims to make available regional databases on open and distance higher education in Africa, Asia and the Pacific and in the Community of Independent States (CIS) and Baltic States. These databases are linked to a search tool on the main UNESCO site for the project (www.unesco.odl/unesco) through The Commonwealth of Learning (COL) Knowledge Finder. In addition, UNESCO is developing a decision-support tool (DST) that provides key questions concerning quality

assurance of ODL. This DST will be linked to the three regional databases to provide further background to the issues it addresses at the regional level.

The project aims to support developing countries in elaborating robust national quality assurance systems for ODL. It responds to the rise in demand for enrolments, often in frameworks characterised by decreasing state funding for higher education. This situation is particularly accentuated in developing countries (see Chapter 1), making access to lifelong learning opportunities of quality increasingly urgent.

In this project the definition of lifelong learning is similar to that of open learning, namely: policies and practices that permit entry to learning with no or minimum barriers with respect to age, gender or time constraints and with the recognition of prior learning. Distance education is defined as learning mediated through technology (e.g. radio, TV, Internet) or with the support of printed material.

GLOBALISATION AND QUALITY DISTANCE HIGHER EDUCATION

Ensuring lifelong learning opportunities is becoming critical as individuals need to continually update their skills in an increasingly globalised knowledge society. Furthermore, in developing countries the growing demand for enrolments means that governments have to turn to innovative options to meet these challenges. The quality of distance education becomes a priority as new lifelong learners opt for distance education so that they can study while still meeting their social and professional responsibilities. New challenges to quality higher education arising from the impact of globalisation[2] include the proliferation of new providers, cross-border provision[3] and increased electronic delivery of higher education.[4]

Quality assurance is the systematic internal review of educational programmes to ensure that acceptable standards of education, scholarship and infrastructure are being maintained.[5] UNESCO recognises that quality assurance of distance higher education is integrally linked to quality assurance of higher education in general. It is understood that there are specificities of distance education linked to the change in the learning/teaching dynamic due to the 'distance' factor.

Middlehurst (2001) provides a concise typology of the variables that should be considered when measuring the quality of new providers of higher education — new types of providers and provision, delivery modes, media, location, curricula and content as well as qualifications and outcomes. Middlehurst highlights the complexity of ODL provisions in this framework by stressing that these provisions not only cross boundaries of space and time in their educational provision, often using information and communication technologies (ICTs), but that institutions offering ODL may be cross-border providers and/or cross organisational or sectoral boundaries (e.g. tertiary level courses provided by private companies in fields such as computer programming).

One example of the challenges of assuring distance higher education would be the issue of learner support. Specifically, in distance education the learner is separated from the instructor and other learners in space and often in time. Unless learning is taking place live in a virtual classroom, the learner is unable to ask for clarifications on the subject matter by engaging directly with the instructor and/or other learners, as would be possible in a traditional classroom environment. Interactions are often made

through ICTs (e.g. by phone, fax and/or Internet) and/or by fixing specific tutoring times and places. The managing of these processes is an important element in ensuring the quality of the learning experience provided. This project aims to provide support for meeting these challenges and others related to the provision of quality distance higher education.

BACKGROUND TO THE HEODLKB PROJECT

The Higher Education Open and Distance Learning Knowledge Base was established to provide decision-makers and practitioners with ready access to information and tools that will assist them in more effective policy, planning and management of ODL in higher education programmes.

The project was established as part of UNESCO's Cross-Cutting Theme (CCT) initiative launched by the Director General of UNESCO in 2001. The CCT initiative aimed at fostering intersectoral action pertaining to two cross-cutting themes of UNESCO's Medium Term Strategy for 2001-2006: (1) the eradication of poverty, especially extreme poverty; (2) the contribution of ICTs to the development of education, science and culture and the construction of a knowledge society. In this framework, the Director-General introduced an innovative strategy of earmarking a certain amount of regular programme resources for CCT projects. These projects were selected on the basis of a competitive bidding process at the Secretariat level, involving Headquarters and Field Offices. These projects aimed to make closer linkages between strategic objectives and to test innovative approaches and delivery modalities in various areas. The projects were chosen through an evaluation carried out by UNESCO's College of Assistant Director-Generals in 2001. After an initial funding period of one UNESCO biennium (2002-2003), funding to continue this project has been requested and awarded twice (in 2003 and 2005) through the same competitive process for the 2004-2005 and 2006-2007 biennium.

This project is linked to the cross-cutting theme[6] "the contribution of ICTs to the development of education and the construction of a knowledge society". It is part of the main strategic thrust of UNESCO to promote empowerment and participation in the emerging knowledge society through equitable access, capacity building and sharing of knowledge. The main strategic objective addressed by this project is that of "promoting experimentation, innovation and the diffusion and sharing of information and best practices as well as policy dialogue in education" (UNESCO Medium Term Strategy 2001-2007[7]).

The team for this project was established during the first bidding process cycle (2001) mentioned above. The lead unit for the project, the Division of Higher Education, working closely with the Communications Sector, contacted and initiated the establishment of the project team. The project team members were solicited for their expertise in higher education and/or ICTs. As a result of these consultations, a multi-disciplinary team, covering three UNESCO regions and with expertise in higher education and ICTs, was established. In order to anchor the project solidly in the regions and to act as a catalyst for international co-operation, Field partners were encouraged to involve regional institutions with ODL expertise in the implementation of the project. As a result of this strategy, the South Africa Institute for Distance Education (SAIDE) in Braamfontein, South Africa and the Malaysian Open University in Kuala Lumpur, Malaysia, became implementing partners in the Africa Region and the Asia and the Pacific Region respectively. The Communications and Information Sector of UNESCO assured the technical development of the knowledge base. The International Institute for

Educational Planning has been responsible for the evaluation of the project. The Division of Higher Education, UNESCO Education Sector has been responsible for the content development of the knowledge base and the management of the project.

In addition, contacts with COL were established to make synergies with the Global Distance Education Network (GDENet) project managed by COL and the World Bank. As part of the co-operation with COL, the project has incorporated the COL Knowledge Finder tool as a search mechanism for the project. Furthermore, the HEODLKB project has developed a common taxonomy with the GDENet project in order to facilitate the sharing of resources between the two projects.

The project team met three times since 2002 to clarify the project objectives and activities, and to plan future activities. It also held several telephone meetings and bilateral meetings among project team members. Furthermore an external evaluator for the project was contracted at the end of the first project phase. Project planning was based on the evaluation of the first project phase and the monitoring and evaluation strategy of the second project phase. These interactions proved to be very important for clarifying project activities and goals, and ensuring coherence in the different regional activities.

In 2002, the project carried out a needs analysis of the existing ODL decision-making resources and priority information needs in the target regions. The results of this analysis highlighted the need for information on quality assurance of ODL that responded to region-specific needs.

The first project phase (2002-2003) identified the regional implementing partners and clarified the role of information processing tools that could be useful to reach the project objectives. The primary focus of the first phase of the project was the technical development of the DST. During this first phase, the project examined existing computerised information resources on ODL and reviewed potential knowledge management applications for policy-makers. It looked at a range of software systems that could be developed for supporting users in extracting, organising and managing relevant information on ODL. From this exercise a first prototype was developed with contents focusing on quality assurance of distance higher education. This tool was tested at the Training Workshop for Policy Makers on the Open and Distance Learning and Expert System (Shanghai, China, November 2003). This event was organised by UNESCO Bangkok, a member of the Project Team, and hosted by the Shanghai TV University. Participants included policy-makers at the institutional and governmental level from 18 countries in the Asia and Pacific Region. The participants found the prototype too prescriptive and called for support that focused more closely on their region-specific needs with links to the regional databases. In addition the need for user-friendliness was highlighted.

An important step for the project was to make a clear distinction between the two different roles of ICTs for education: (1) to support decision-making in education; (2) to deliver educational content. Once this distinction was explicitly made, the responsibility for the development of the DST was split between the Educational and Communication and Information specialists.

In the second phase of the project (2004-2005), the project team decided that the DST would be tied integrally to the regional information databases. The technical and content aspects of the DST were completely separately in the second phase. For the technical development, the prototype was revised taking into account the recommendations of the Shanghai 2003 evaluation. This technical development was undertaken by the implementing partner in the Africa Region, SAIDE. The content aspect of the DST was

developed by the Division of Higher Education through a contract with Universitas Terbuka in Indonesia and in consultation with 12 experts representing all project regions who formed an Ad Hoc Virtual Advisory Group (the "virtual" quality of this group was mainly that the consultation was held entirely by e-mail).

In the development of the contents, the Quality Assurance Center of Universitas Terbuka was requested to provide a draft questionnaire on quality assurance of higher education provided by ODL. The Ad Hoc Virtual Advisory Group was requested to review the questionnaire draft. The members of this Advisory Group received a draft of this questionnaire for comments. Each Advisory Group member was requested to send their comments and/or modifications to this draft in writing to UNESCO. UNESCO provided these inputs to the contractor, Universitas Terbuka, for the modification of the final questionnaire text.

The contents will be inserted in the online model of the DST under preparation by SAIDE. The DST will be tested in workshops held in the regions. Through these workshops, the contents of the questionnaire may be modified to better fit regional needs as necessary.

In the online version of the DST, the user will enter an online user-interface that will direct him or her through the questions, and make links to region-specific information on each topic that is available in the regional databases. This DST will be made available free of charge on the main project site at www.unesco.org/odl.

QUALITY ASSURANCE QUESTIONNAIRE

The final questionnaire was based on 12 components for consideration: policy and planning; human resources; internal management; budget and funding; learners; programme design and curriculum development; course design and development; learner support; media for learning; learner assessment; research and community service; and graduates and alumni. Each component included indicators, key questions, background, definitions and weighting for the key questions. The component headed "Media for learning" is given below as an example.

- *Component "Media for learning"*: Media for learning in ODL should include these variables: a variety of media used to deliver learning material; training in the use of media for staff and students; and research and development in the use of new technology. The distance education institution should ensure that a variety of media are used to facilitate student learning processes and to meet the learners' needs effectively.

- *Variable*: A variety of media used to deliver learning material

- *Indicator*: The variety of media to deliver learning, namely through print, electronic and network

- *Key question*: Does the institution use media and technology to match the content, enhance and extend the learning and suit the learner's characteristics, learning needs and circumstances?

- *Background/definition*: A variety of media for distance learning students should be used to enhance students' learning process, considering the characteristics of the content of the learning material and the students' learning styles. Media and technology should be employed to match the content, enhance and extend the learning and suit the learner's characteristics, learning needs and circumstances.

A system of weighting of the key questions was applied. This weighting system, which was provided in the original 2002 prototype of the DST, aimed to provide priorities in decision-making for the user. Its use will be further evaluated in the testing phase of the DST.

The contents of the DST are currently being incorporated into the online version of the tool. Once the online version is operational, it will be tested in the regions through regional workshops. When the DST is available online, users will be able to access the questionnaire through the project Web site or on CD-ROM. The user will be able to evaluate a programme of distance higher education by going through the DST questions. Should the user require further information on a particular point, he or she would be able to search the regional databases through the search tool linking the DST to the regional databases.

The key components provided in this questionnaire reflect the findings of the study of quality assurance mechanisms in cross-border higher education (Jung, Chapter 7). It is important to note that the objective of the DST is to support a quality culture — the identification and development of quality criteria, valuing capacity building and stressing links between internal quality assurance systems and accountability to the public at the national and international levels (Jung, Chapter 7). The project also recognises the heterogeneity of quality assurance systems that are possible for distance higher education. The DST provides an array of components that users may emphasise in varying degrees depending on their particular needs.

The main objective of this tool is to provide guidance on key areas for evaluating the quality of distance higher education. It is by no means a "one size fits all" model, but proposes means for decision-makers to access resources to evaluate national and institutional specific situations.

CONCLUSION

This project has provided an inter-regional and inter-disciplinary solution to support quality distance higher education. It illustrated the importance of using ICTs for education both to extend access to educational provision and to support informed policy-making.

Three issues are highlighted from this project experience: methodologies for addressing education and ICTs; the challenges and benefits of collaboration across regions and disciplines; and the benefits of tapping into existing regional resources for regional answers.

With regard to links between education and ICTs, it is important to clarify the role of education and that of informatics to ensure that priority is given to providing an educational response to the educational issue. Namely it is important to underscore that ICTs are being used to assist educational specialists with education problems. In the case of the project, it was clear that the informatics solution foreseen, the DST, which is simple and user-friendly, was more valuable because more users were interested in using it. While it appears redundant, it is important to keep in mind that as technology advances quickly, tools that are sophisticated technologically but too hard for users to use will not be as effective.

Inter-regional and inter-disciplinary collaboration are very important but requires focus and commitment. Dialogue is essential to ensure a common understanding of the priorities of this educational response and the necessary contribution of team members in view of their area of specialisation.

Finally, it is important to highlight the value of building on existing regional information resources and expertise. The project has shown that a great deal of expertise and information is being developed in the project regions in this field. In addition, through this project, experts in the regions have been identified and invited to contribute to this process. Links between regions for the development of the DST have also proven very effective. In the development of information tools, the project has adopted the strategy of favouring linking and consolidating existing resources rather than producing new resources. This support and enhancement of regional expertise and information is a valuable project outcome.

The challenges of an increasingly globalised higher education arena brings with it the need for enhanced collaboration between regions and disciplines. This collaboration, in the area of education and ICTs, may aid in delivering education, organising information on education or administering educational delivery. This project has built on the potential of this interdisciplinary and inter-regional collaboration for meeting these challenges.

POLICY CONSIDERATIONS

- ***Clarity on the role of ICTs for Education***

  ICTs serve a dual role in supporting both learning and policy planning. In the development of educational tools, it is the needs of the users that should be given priority rather than the possibilities of technological support. In the first phase of this project, the technological aspects of the DST development took precedence, while in the evaluation of this aspect of the project it was found that the target users were more concerned with the user-friendliness and adaptability of the tool than with its technological advantages.

- ***Need for dialogue and multi-disciplinary approaches to providing ICT solutions to educational challenges***

  The increasing use of ICTs in education highlights the need for multi-disciplinary teams that bring together experts in both education and informatics. These groups use different vocabularies and have different priorities – a situation that created certain challenges in the initial stage of the project. Dialogue is therefore essential to bridge the gap and to establish agreement on the common goal of the project, while also understanding the role that each specialist must play in reaching the goal.

- ***Recognising the dynamic nature of ODL***

  ODL is a rapidly expanding field where new developments are happening very quickly. A static tool for policy-making would become quickly outdated. At the same time, regional needs in this area vary widely owing to several factors such as variations in educational demand and differing degrees of access to ICTs. The HEODLKB project, recognising this challenge, has aimed to involve partners active in the ODL field in their respective regions in the implementation of the project. In the development of the DST, high priority has been given to its adaptability and its sensitivity to regional information needs.

RELEVANT INTERNET SITES

Higher Education Open and Distance Learning Knowledge Base
www.unesco.org/odl
Main project site for the Open and Distance Learning (ODL) Knowledge Base project. This project was set up to support decision-makers and practitioners with ready access to information and tools that will assist them in more effective policy planning, development and management of ODL in higher education programmes. This cross-regional project focuses on quality provision of ODL in higher education. This site provides links to the regional information sites in Africa, Asia and the Pacific and CIS and the Baltic states

UNESCO Global Forum on Quality Assurance, Accreditation and the Recognition of Qualifications
www.unesco.org/education/higher_education/global_forum/main
The Global Forum on International Quality Assurance, Accreditation and the Recognition of Qualifications responds to the growing demands of the international community to have UNESCO proactive in the debates around borderless higher education and trade in higher education within frameworks such as the GATS, as well as the related key issues of quality and recognition. The Global Forum reflects UNESCO's mission to respond to the ethical challenges of globalisation. The objective of the Global Forum is to provide a platform for dialogue between international frameworks dealing with quality assurance, accreditation and the recognition of qualifications.

UNESCO/OECD guidelines on "Quality provision in cross-border higher education"
www.unesco.org/education/amq/guidelines
The Guidelines aim to support and encourage international co-operation and enhance the understanding of the importance of quality provision in cross-border higher education. The purposes of the Guidelines are to protect students and other stakeholders from low-quality provision and disreputable providers, as well as to encourage the development of quality cross-border higher education that meets human, social, economic and cultural needs. UNESCO and OECD have been asked by their respective constituencies to work on the development of such guidelines according to the resolution of the 32nd session of the General Conference of UNESCO, October 2003, and to the decisions taken at the OECD/CERI Governing Board meeting, October 2003.

GDENet Site
www.col.org/disted/
The Global Distance Education Network (GDENet) is a knowledge guide to distance education designed to help distance education practitioners who are interested in using distance education for human development. The Network consists of six Internet sites located around the world.

Commonwealth of Learning
www.col.org/
Open and Distance Learning for Development: The Commonwealth of Learning is an intergovernmental organisation created by Commonwealth Heads of Government to encourage the development and sharing of open learning/distance education knowledge, resources and technologies. COL is helping developing nations improve access to quality education and training.

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Notes

1. This project is co-ordinated by the UNESCO Division of Higher Education at UNESCO Headquarters and builds on collaboration with the UNESCO Sector for Communications and Information and the UNESCO International Institiute for Educational Planning for its management. It is implemented through UNESCO Field Offices in Bangkok and Harare and the UNESCO Institute for Information Technologies in Education in Moscow.

2. This project is one response of UNESCO to meet the challenges of globalisation on higher education. Other responses include the UNESCO/OECD Guidelines on quality provision of cross-border higher education and the UNESCO Global Forum on International Quality Assurance, Accreditation and the Recognition of Qualifications.

3. Cross-border providers are higher education institutions that are based in a country other than the one where they are providing higher education. Often these higher education institutions operate outside the national higher education system in the country where they are providing higher education.

4. In the recent drafting process for the UNESCO/OECD Guidelines for quality cross-border higher educarion, a main concern highlighted by UNESCO Member States was the quality of higher education offered through electronic delivery.

5. The Council on Higher Education Accreditation (CHEA) defines Quality Assurance as "the planned and systematic review process of an institution or [programme] to determine that acceptable standards of education, scholarship, and infrastructure are being maintained and enhanced. This usually includes expectations that mechanaisms of quality control are in place and effective".

6. 31C/4 UNESCO Medium-Term Strategy available at: *http://unesdoc.unesco.org/images/0012/ 001254/125434e.pdf.*

7. Approved 31C/4 UNESCO Medium-Term Strategy 2002-2007 available at: *http://unesdoc. unesco.org/images/0012/001254/125434e.pdf.*

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CHAPTER 9

THE FINNISH VIRTUAL UNIVERSITY AND FINLAND'S PATH TO A LEARNING SOCIETY

Marja Kylämä

CHAPTER SUMMARY

Finland is one of the world's leading countries in the effort to create a learning society, open to all population groups and making full use of information and communication technology (ICT) for distance education purposes. An important part of this effort is the Finnish Virtual University (FVU), created in 2001 as a collaborative initiative of all the 20 universities in Finland. The FVU serves both regular students and lifelong learners and fulfils a variety of different functions – as a learning provider, an academic network, a technical service and a laboratory for the development of ICT-based education. This chapter describes how the FVU is administered and operated and how it may be a useful model for similar initiatives elsewhere.

FINNISH HIGHER EDUCATION AND THE DEVELOPMENT OF AN INFORMATION SOCIETY

Finland is currently pursuing a far-reaching strategy to create a learning society in which high-quality education at all levels and for all sections of the population is supported by cutting-edge information and communication technology (ICT). In the sphere of higher education, this effort is exemplified by the Finnish Virtual University (FVU), an ambitious project initiated in 2001. Before discussing the FVU in detail, it may be helpful to describe briefly how the Finnish higher education sector is organised and the context in which the project arose.

There are 20 universities in Finland: ten multi-faculty institutions, three universities of technology, three schools of economics and business administration and four art academies. There are 29 polytechnics, most of which are multi-field institutions. All Finnish universities are government-run and primarily financed from the state budget. The universities have extensive autonomy. The polytechnics are either municipally or privately run and co-financed by the government and local authorities. Parliament passes

educational legislation and decides on the overall lines of education and research policy. Performance management and target outcomes constitute the most important tool for the Ministry of Education in steering the operations of the universities and the polytechnics. (Ministry of Education, 2004c)

The main policy guidelines and development targets are determined at a general level in the *Development Plan for Education and Research*, which is adopted by the government for a six-year period every four years. The current *Development Plan* (Ministry of Education, 2004a) is based on the education and science policy objectives set in Prime Minister Matti Vanhanen's government programme and in the government's strategy document. One of the aims of the *Development Plan* is to make the education system more flexible with a view to better access to education and training for the adult labour force. Adults' opportunities to take university degrees will be improved by means of educational arrangements geared to working adults. People with higher education degrees will be offered more opportunities for further education appropriate for their situations and their prior learning. It is intended that adult learners following university courses of one kind or another will amount to approximately 20 per cent of the whole enrolment.

An important part of the adult education provision in Finland is covered by the system of open university instruction, provided by 19 Finnish universities. The system is open to everyone, regardless of their age or educational background. Open university education is arranged in co-operation with the subject departments of universities. It corresponds to regular degree studies in terms of both objectives and requirements. The open universities cannot award degrees, but the credits obtained in them are transferable and can be counted towards a university degree. The open university system will be further developed as a track to obtaining a degree. It is estimated that in the year 2008 about 3500 of the 5000 entrants in university adult education will start in separate Master's programmes, 1000 will proceed through the open university track to degree studies. Openings will additionally be reserved in graduate-entry education for some 500 students. (Ministry of Education, 2004a)

Adult education uses virtual education arranged by the universities themselves and by the FVU and develops flexible forms and methods of education in keeping with the principle of lifelong learning, understood as all learning activity undertaken throughout life with the aim of enhancing knowledge, skills and competences for personal, civic, social and/or employment purposes. The support services of the Virtual University are also available to university adult education. Lifelong learners are often keener on virtual learning than young learners because it enables them to study without the limitations of time and place.

The proportion of virtual teaching is growing, but currently available only in Finnish and Swedish. There are no age limits or requirements concerning prior learning in open university. Every effort is made to keep the fees charged for open university instruction at a moderate level. There are also special programmes for elderly people in the open university, which go under the name of The University of the Third Age.

 In university extension education, mature students can pursue general, intermediate or advanced studies on courses geared to adults. The extension centres collaborate in developing different continuing professional education strategies, anticipating external and internal needs. Virtual education was used in extension education before it became established in undergraduate education. One of the principles underpinning extension education is to nourish lifelong learning in the universities.

A significant trend in Finland is the growth of cross-border education, which is expected to continue. This comprises both face-to-face teaching and virtual education offered by

foreign providers. In Finland, the principle of equal opportunity underpins all education. The target set in the Development Plan is that by the end of the present decade 8000 polytechnic students and 6000 university students will annually carry out part of their degree studies abroad and that a corresponding number of exchange students will study in Finland. Polytechnics and universities are to increase the number of foreign students to the extent that in 2008 there will be a total of 12,000 foreign degree students in Finland. To this end, the higher education institutions will arrange foreign-language programmes and courses according to their own specific profiles. Virtual education will play a major role in the provision. (Ministry of Education, 2004a)

The second national strategy, *Education, Training and Research in the Information Society 2000−2004*, described changes in the Finnish operational environment and outlined the overall development of an information society in Finland. It envisioned that "Finnish society will develop and utilise the opportunities inherent in [an] information society to improve quality of life, knowledge, international competitiveness and interaction in an exemplary, versatile and sustainable way". (Ministry of Education, 1999). The implementation plan consists of projects like the Virtual University, the Virtual School, Research and Development in Learning Environments, and Information Society Structures. (Ministry of Education, 2000)

The *National Information Strategy 2000-2004* has significantly promoted the use of ICT in education and research. This in turn has generated new demands for developing information security and the protection of personal data and privacy, enhancing the quality of and open access to virtual education and materials, and developing copyright legislation to meet the requirements of the information society. These were some of the reasons for updating the strategy by means of a new programme that will support and guide future developments in the Ministry of Education sector. The *Information Society Programme for Education, Training and Research 2004−2006* contains major priorities and actions for boosting information society development. (Ministry of Education, 2004b)

FINNISH VIRTUAL UNIVERSITY

Towards the end of the 1990s, the idea of a national Virtual University was raised by two stakeholders: the universities themselves and the Ministry of Education. At the time, the discussion began to focus on the globalisation of the educational markets and on a European higher education area. The Minister of Education suggested that the committee preparing the *Information Strategy for Education and Research* should include a proposal for a virtual university in it. According to the strategy, "A multidisciplinary virtual university will be established to produce and transmit high-quality educational services and facilitate network-oriented research. The network will include the services offered by the virtual open university". The virtual university was to offer undergraduate, postgraduate, open university and continuing professional education.

In the summer of 1999, an organisation for implementing the strategy was set up; this included a working group on the virtual university. The working group prepared an implementation plan, and subsequently a development unit was established in 2000 to co-ordinate the start-up of the virtual university in collaboration with universities.

According to the implementation plan, the aim of the virtual university was to create a high-standard, internationally recognised virtual university to offer flexible net-based educational services as a joint venture between universities, research institutes and business enterprises. The aim was also to expand and diversify research which supports

higher education, including virtual education. The third aim was to capitalise on ICT for effective, user-friendly advisory, guidance, learning material, administrative and educational services.

The plan is in line with the Bologna Declaration of 19 June, 1999, a joint declaration of the European ministers of education, which aims at establishing a European area of higher education by 2010. The process is co-ordinated by the Bologna Follow-up Group (www.bologna-bergen2005.no/). This area is intended to promote the mobility of people, the transparency and recognition of qualifications, the quality and European dimension of higher education, and the attractiveness of European institutions to third country students. The FVU is one means of facilitating virtual mobility. Finland has ratified the Convention on Recognition of Qualifications concerning Higher Education in the European Region, drawn up by the Council of Europe and UNESCO in April 1997.

Organisation and funding of the Finnish Virtual University

The Finnish Virtual University (FVU) is a consortium of all the Finnish universities. In addition to the 20 universities in the Ministry of Education sector, the Consortium includes the National Defence College, administered by the Ministry of Defence. The Consortium Agreement was signed on 18 January, 2001.

The decision-making body in the FVU is the Consortium Assembly, which is composed of one representative from each member university and one from the Ministry of Education. The universities are mostly represented by rectors or vice rectors. The Consortium has one or two meetings per year. The agendas are drawn up by the FVU Steering Group, which also exercises authority between meetings. The Steering Group comprises five members nominated by the Consortium Assembly, one nominated by the Ministry of Education, and the director of the FVU Service Unit. There are also expert members, including representatives of Centre for Scientific Computing, the National Union of Students in Finland and the National Electronic Library. Besides participating in national collaboration, each member university has a special unit to promote and support online learning and teaching locally.

The financing allocated by the Ministry of Education to universities during the three-year agreement period provides the actual core funding, which amounts to some 87 per cent of the operational expenditure. The remaining 13 per cent constitutes financing of national tasks and programmes. The national programmes covering several years, initiated by the Ministry of Education, derive from the government programme, the *Development Plan for Education and Research* or the Ministry's own resolutions. The Virtual University is one of the national priority programmes in the period 2000-2006.

The funding of Virtual University activities is determined in the performance agreements separately concluded between the Ministry of Education and each university. The Ministry of Education has financed virtual university projects since 2001, when the total annual volume of the funding was €8.4 million. In 2005, the total is €9 million. Half of the funding is given to universities in proportion to their size for virtual teaching projects prioritised by each university and for staff-development training. The other half is given to the Virtual University networks.

Operational idea

The operational idea of the Finnish Virtual University is that the universities provide services that enable students to find flexible ways to study and help the university staff

to make the best use of new educational technologies. New technologies are also used to promote nation-wide networking among subject fields and projects of common interest.

Another factor facilitating student mobility is an agreement on flexible study rights. In 2004 all the Finnish universities signed a Flexible Study Rights (FSR) Agreement in order to enlarge study opportunities, increase study options and promote progress in studies. This agreement enables undergraduate and postgraduate students to include studies offered by other universities in their degrees and avail themselves of the experts and specialities on offer in other universities. Before students start their FSR studies, their own university must approve the studies and the target university has to admit the student to the course. The student must be registered as being present at his or her home university. The target university describes the assessment scale and the home university adjusts the grade to its own scale. FSR studies are free of charge for the student, but the home university pays for the studies to the target university. If for some reason the home university does not do so, the student can take the course as a non-degree student. The non-degree study system is also open to those who are not enrolled at any university. A fee is charged for non-degree studies.

The FVU offers courses "owned" and organised by the universities themselves or by the networks, which are consortiums of several universities or faculties. For virtual studies, the student has to be enrolled in one of the member universities. The FVU itself does not award degrees or diplomas; this is always done by the member universities.

FVU NETWORKS

There are three kinds of networks in the Finnish Virtual University. One form is an academic network serving a specific discipline or a multidisciplinary field, which produces and offers courses in its field for undergraduate students and some of them also for postgraduate students. The second form is a regional network that produces online studies and teaching geared to a given region and develops innovative regional concepts in the use of ICT in local universities. The third type of network produces support services both for internal use in universities and for shared use among the universities throughout the country. These services are developed by the support networks and made available by the FVU Service Unit in the FVU portal.

The academic and regional networks also organise joint courses, which are primarily intended for the students of the member universities but also open to other students. The universities offer many courses for students who are not enrolled in a university, such as upper secondary school students and open university students. Studies are free of charge for regular undergraduate students, but the open university system charges fees.

Academic networks

An example of an academic network is the University Network for Communication Sciences. It is a national partnership between the relevant departments in ten higher education institutions and has its own organisation for internal decision-making.

The purpose of the network is to facilitate scientific co-operation and knowledge transfer in the field of communication, to enhance basic studies in the field, especially with the help of ICT, to support doctoral and postdoctoral studies and to plan new programmes. In the academic year 2004-2005, it focuses on shared online courses, the Professional Licentiate Programme in Digital Communication and joint postgraduate education.

National virtual courses arranged by the network are open to students who have communication as their major or minor subject or who are exchange students at a member university. Enrolled students incorporate the network courses into their degrees in the home university. Other students can apply for Flexible Study Rights at a member university.

Courses arranged by the network do not constitute study modules in any subject. A virtual course is intended as an online alternative to a course offered as contact teaching or as an additional option for students whose own university does not offer that particular course. Students should find out in advance about credit transfer, unless the degree requirements in their subject specifically mention the equivalence and accreditation of network courses.

In 2004 the network arranged 13 virtual courses in Finnish, one in Swedish and three in English. Enrolment on the courses given in English was open to exchange students studying communication at one of the networked universities. From 2001 to 2004, a total of 1700 credits were awarded for the Web-based courses (the equivalent of about 3100 credits in the European Credit Transfer System).

Regional networks

A good example of a regional network is the Eastern Finland Virtual University Network (EFVU). It started as a three-year project (2001-2003) on Ministry of Education funding. It is a partnership between the University of Joensuu, which co-ordinates the project, the University of Kuopio and the Lappeenranta University of Technology. The objective was to diversify university-level education and to increase study options in eastern Finland by means of an information network and thereby to contribute to regional development.

The Eastern Finland Virtual University Network produces Web-based courses, conducts research and development, trains university staff and improves educational technology. As part of the Finnish Virtual University, it contributes to the national development of university education. The EFVU has a staff of ten, based in the three universities. In addition to staff, many other experts participate in the planning and realisation of various courses and other projects.

The foremost aim of the network is to run a research network and develop virtual courses in eastern Finland. In 2004 the EFVU published a bulletin describing its research on virtual learning and announcing its establishment on a permanent basis. The bulletin looks at virtual teaching and learning from both teachers' and students' viewpoint and in terms of Web-course production and its costs.

In the current performance agreement (2004–2006), the Ministry of Education and the University of Joensuu agreed that €300,000 would be allocated in 2004 for the Eastern Finland Virtual University. As the co-ordinator, the University of Joensuu is responsible for the financial management of the network.

SERVICE UNIT

The FVU Service Unit implements the strategy adopted by the Consortium Assembly and the aims set in the Consortium Agreement and executes tasks assigned by the Consortium Assembly. The Service Unit will operate as a project organisation at the Helsinki University of Technology until the end of 2006. Its future operations will be determined on a new strategy to be adopted by the Consortium during 2005.

The foremost task for the Service Unit is to support university ICT co-operation. This includes defining joint university standards, harmonising practices in electronic service access and ICT, and drafting standardisation agreements together with the parties to the FVU agreement. It is also important to communicate FVU activities to, and maintain contacts with, players relevant to the further development of these activities. Since the FVU portal was completed in late 2004, the Service Unit has been responsible for maintaining and developing the FVU portal and the services it offers.

The Service Unit has a Director, who is responsible for planning and developing its operations and for unit-level contracts. There are also two Development Managers, one of whom is responsible for planning, developing and implementing electronic student administration systems and quality assurance projects. The other develops the FVU portal, takes care of its administration, the data archive and standardisation projects. In addition, the Service Unit has a Head of Media Communications, an Education Co-ordinator, a Project Officer and two part-time secretaries.

EXPERIENCES OF THE FVU

The Finnish Virtual University, a partnership of all the universities in Finland, was a new departure in the Finnish university sector. The fact that universities have a very large amount of autonomy in Finland and see themselves as rivals made this an exciting but also a problematical project. To a large extent, the virtual activities began as the universities' own internal ICT development projects, which included teachers' in-service training and networked teaching trials. Some networks had earlier operated within particular disciplines and subsequently enlarged and further developed their provision with the advent of the Virtual University. In addition to these disciplinary networks, there emerged a number of other structures to support the development of ICT-based and, above all, Web-based teaching in universities. These include IT-Peda, which has a service to help all the universities to draft and realise an ICT strategy for education. It has a tool called OSKAR for assessing knowledge and skills needed to use ICT in teaching. IT-Peda has also devised a tool called ARVO for assessing the usability, pedagogic usability, graphical design, accessibility and technical realisation of virtual courses. All the services are available in the FVU portal and can be accessed by all, including persons external to universities and the FVU.

Overall, both universities and individual teachers recognise that the Virtual University has generated a great deal of new knowledge and enthusiasm, as well as boosting co-operation amongst the universities. The number of credits awarded in the FVU has nearly doubled from one year to another. One reason naturally is that the supply of courses has been growing very rapidly. The Flexible Study Rights Agreement, which took effect in autumn 2004, will probably further accelerate the growth. The Ministry of Education will undertake an evaluation of the academic networks in the FVU during the spring of 2005.

The virtual provision has mainly been targeted to undergraduate and postgraduate students, but both the education provision and other services have also been used by open university students. Most of them want to improve either their general knowledge or their foundation skills with a view to university studies. Others pursue intermediate or advanced studies in a subject with a view to improving their labour market value. On the other hand, the Finnish open university system offers virtual courses that can also be taken by undergraduate students.

Commitment

The Finnish Virtual University has been in operation since 2001 and will continue to operate on a project basis until the end of 2006. The Ministry of Education expects the FVU to operate on a permanent basis from 2007 onwards, as laid down in the *Information Society Programme for Education, Training and Research 2004-2006* (Ministry of Education, 2004b). At the moment, a new strategy is being devised under the leadership of the FVU Steering Group. This is a challenging task because the Finnish universities have to find consensus on what kind of a virtual university they want in Finland. They have to agree on the organisation of the activities and, more importantly, on the financing of the FVU. Up to now the universities have been able to decide how much of their own resources they want to invest in the FVU in addition to the earmarked funds allocated by the Ministry of Education. This means that they have participated in or implemented joint projects according to their own needs. In addition, all the services produced by the FVU Service Unit have been available to all. In the future, the universities must commit themselves to common aims and ground rules. As the universities in Finland are of different sizes and otherwise heterogeneous, finding a common financing base will be a major challenge. The current plan is that the universities will contribute to the FVU according to their size. These funds will go towards the Service Unit costs. Further costs will incur from the production of new services, from which the universities will choose those they need and pay only for them. This naturally involves the risk that it will not be profitable to produce services for want of buyers.

Funding the FVU

In launching the FVU, the Ministry of Education intended to make funding available for initiating FVU activities and inter-university networks for the period 2001-2004. After this, the FVU operations were to be part of the universities' basic operations, funded from their core funding. However, the initial financing phase has been extended to the extent that in 2006 the universities will still receive this special funding.

In the first year, in 2001, a total of €8.4 million was granted to 20 universities; half of this was used to initiate 25 inter-university networks. The rest was spent by the universities themselves. The resources allocated to the networks are co-financing, that is, the universities must also contribute to the projects from their core funding. Some of these first networks became established in three to four years, whereas others still receive project financing. As the networks kept applying for funds, the Ministry of Education decided to reduce the sum by 25 per cent each year. This was intended to ensure that the same annual sum could also be used to launch new network projects.

The applications for network funding must include plans for permanent operations that indicate how the results obtained during the project will be used and how the project will continue on a permanent basis after the project funding ends. Similarly, the application must specify the project partners' own contribution and how the use of the funds is monitored.

Quality assurance

Attention must also be paid to the quality of operations and outcomes from the outset. Quality assurance in virtual education must be examined from three different angles: the quality of virtual teaching and learning; the quality of virtual learning materials; and the quality of supportive services. The FVU has enhanced the quality of virtual education as

part of quality management. The aim of the ongoing project is to support and promote quality management in virtual teaching and learning in Finnish universities and to enhance the quality awareness and expertise of university personnel, as well as their commitment to quality assurance. There is also an FVU project geared to survey different models for producing virtual courses. These will be reviewed and the best practices will be made available in the FVU portal, together with a few models developed abroad.

Activities in universities

The virtual education funds allocated to the universities are generally distributed among the faculties or subject departments to be used at their discretion. The universities have spent this money on teachers' in-service training and on the infrastructure, as well as on the development of virtual education. Universities have also allocated some of this money on a competitive basis to different projects. These have mostly involved the production and implementation of virtual study blocks. In view of the best value for money, it is important that each university assigns a person to support the implementation of the projects, taking care that the best practices and methods are made available to the whole university community.

With the proliferation of ICT, nearly all Finnish universities have set up educational technology centres to promote the use of and research on educational technology and thereby enhance the quality of university education and teaching. The development of educational technology is increasingly seen as an integral part of the overall development of teaching. With the progress of virtual education, these centres were established on a permanent basis and began receiving stable funding alongside project funding. Universities have also provided funds for permanent posts and other employment relations at the centres. At present, the internal allocation of virtual education funds in the universities is mostly co-ordinated by these centres.

Student response to the FVU

When the Virtual University was being founded four years ago, one fear aired by students and teachers was that virtual education would undermine communality and isolate virtual students from the others. In practice, however, students only take a few virtual courses and most of these comprise both virtual and contact-teaching. In fact, the virtual education provision has added to the options available for students and diversified teaching and learning methods, also enhancing communality. The possibilities of virtual teaching and learning have been used in many different ways: some learning materials are made available on open access Web sites, others in closed learning environments, where students' projects and theses are available for comments to a given group. University personnel consider it a positive development that universities co-operate more actively amongst themselves in devising joint degree programmes.

National and international co-operation

From the outset, one aim for the FVU was to strengthen international co-operation between universities in virtual learning and teaching. At the moment, most virtual courses and services are only available in Finnish or Swedish. But networks which have foreign universities as partners also offer courses in foreign languages, mostly in English. According to their virtual education strategies, the universities will progressively offer more Master's level courses in English and recruit foreign Master's and doctoral students

in fields that provide degree education in a foreign language. In this, virtual education has a major role to play.

One strategic aim for the FVU is to develop the marketing of its strength areas and spearhead projects, purchase international materials and otherwise engage in active international co-operation.

CONCLUSION

In the four years since it began operation, the Finnish Open University has achieved encouraging results and has proved to be a fruitful partnership between the universities as well as between the academic world, the government, business and other stakeholders. Careful planning in the preparatory stages has enabled the institution to develop as an organic entity and to function as an integral part of the whole educational system including adult education and lifelong learning. The Consortium Assembly and the Steering Group have worked effectively, and the threefold network structure – comprising academic, regional and service networks – has functioned well. In particular the value of a strong central Service Unit, to take care of technological backstopping, standardisation and other such matters, has been clearly demonstrated. While striving to make the best use of the latest technologies, the FVU has at the same time made the quality of its provision a high priority. There has been a steady growth in the number of courses and in the number of credits awarded. The experience of the FVU in the first few years of its existence has yielded a number of policy lessons, which are set out below, and it is hoped that these will be useful to other countries and groups of universities that may be contemplating similar initiatives.

POLICY CONSIDERATIONS

The Virtual University has raised many new policy issues for discussion in the Finnish universities. Some of them are summarised and discussed here.

- *Joint virtual education is a new departure for the universities. It requires extra resources and common policies.*

    All the Finnish universities have signed the Consortium Agreement. Under this agreement, the Consortium Assembly is the decision-making body. It is composed of one representative from each member university and one from the Ministry of Education. The agendas are drawn up by the FVU Steering Group, which also exercises authority between meetings. The Steering Group comprises five members nominated by the Consortium Assembly, one nominated by the Ministry of Education, and the director of the FVU Service Unit. The main item on the agenda of the Consortium meetings is the FVU plan of action and budget for the next year. The Steering Group is also responsible for steering the work of FVU Service Unit.

- *Virtual education entails new operational models and new services to succeed.*

    When universities offer virtual courses for students enrolled in other universities, there must be a common portal for everything this entails. Both the teachers and the students need different kinds of support services to cope with virtual education. The FVU portal offers various counselling services on studies and learning skills, such as *OVI* − a tool for designing a personal study plan; *IQ Learn* − tools for the assessment and improvement of learning skills; and *IQ Team* − information, support and guidance for teamwork. For teachers, it offers an interactive guide for designing

online courses; an educational technology selection tool; a usability evaluation tool; and a tool for evaluating the staff's ICT skills level.

- ***To enlarge study opportunities and to increase study options, universities need to sign an agreement enabling students to count studies offered by other universities towards their degrees.***

On the basis of the Flexible Study Rights Agreement a student who is an enrolled degree student at one of the Finnish universities may apply for a temporary right to pursue studies that are part of degree studies in another Finnish university. The right to pursue studies becomes effective when the receiving university has granted the student the right to pursue the studies approved by the home university. Under the agreement, the costs incurring from such student mobility are reimbursed to the university providing the studies.

- ***University lecturers need technical and pedagogical ICT skills and support to plan and implement Web-based courses.***

One of the FVU projects called *TieVie* offers in-service training in the pedagogical use of ICT and in the planning of Web-based courses. In addition, nearly all Finnish universities have set up educational technology centres to promote the use of and research on educational technology and thereby enhance the quality of university education and teaching. The development of educational technology is increasingly seen as an integral part of the overall development of teaching.

- ***The ongoing changes in the demographic and labour structures entail that measures continue to be taken to further raise the level of education and knowledge.***

The development of adult education and training at all levels is one effective response to the educational needs of the adult population and the labour market. Regional development and the accessibility of education are supported by the production of virtual teaching services like the virtual university and virtual open university services. They enable all learners, regardless of their educational background, to study higher education courses. For the time being, there are no tuition fees for either domestic or foreign students in Finland.

RELEVANT INTERNET SITES

Ministry of Education, Finland
www.minedu.fi

Finnish Virtual University
www.virtualuniversity.fi
The Finnish Virtual University (FVU) is a partnership of all the 21 Finnish universities. It is based on collaboration, division of labour, shared knowledge and expertise of these member universities. It promotes online learning and teaching and develops compatible information infrastructures.

Virtual Polytechnic
www.virtuaaliamk.fi/channels/www/eng/etusivu.html
The Virtual Polytechnic is the Finnish polytechnics' national co-operation organisation that promotes and develops online learning and teaching, networking and network-based services.

Open Universities
www.avoinyliopisto.fi/english/index.html
Open university education is arranged in co-operation with the subject departments of the universities. It corresponds to regular degree studies both in terms of objectives and requirements. Open universities cannot award degrees, but the credits obtained in them are transferable and can be used counted towards a degree after enrolment in a university.

The university programmes for the third age are a special form of open university. Their aim is to impart knowledge of topical research findings to older people, as well as to offer them opportunities for independent studies at the university level without formal qualification requirements. The University of the Third Age (UTA) is a meeting place for scientific knowledge and life experience.

University Continuing Education Network
www.dipoli.hut.fi/uce/english/index.html
University Continuing Education Network (UCEF) is a co-operative organisation for the extension education institutions in the Finnish universities. Every Finnish university is represented in the network, usually by their continuing education director. UCEF was founded in 1990. The headquarters is located at Helsinki University of Technology Lifelong Learning Institute Dipoli.

National Electronic Library
www.lib.helsinki.fi/finelib/english/
The National Electronic Library (FinELib) acquires Finnish and international resources in support of teaching, learning and research. FinELib negotiates user-rights agreements for electronic resources on a centralised basis for its member organisations. Helsinki University Library, The National Library of Finland, is responsible for FinELib operations and development.

CSC, the Finnish IT centre for science
www.csc.fi/suomi/info/index.phtml.en
CSC is the Finnish IT centre for science, administered by the Ministry of Education. CSC provides modelling, computing, and information services for universities,

polytechnics, research institutions and industrial companies. Funet communication links, maintained by CSC, provide research workers with Finland's widest selection of scientific software and databases and Finland's most powerful supercomputing environment.

European Higher Education Area and the Bologna process
www.bologna-berlin2003.de/pdf/Communique1.pdfwww.bologna-bergen2005.no/
The Bologna Declaration aims at the establishment of a European area of higher education by the end of this decade. This area should promote the mobility of people, the transparency and recognition of qualification, the quality and European dimension of higher education, the attractiveness of European institutions for third country students.

Convention on the Recognition of Qualifications concerning Higher Education in the European Region (the Lisbon Convention), 1997
http://conventions.coe.int/Treaty/EN/Treaties/Html/165.htm
The Convention, jointly drafted by the Council of Europe and UNESCO, is designed to facilitate the mutual recognition of qualifications between countries of the European region.

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Explanatory notes

Virtual university

In this article, the virtual university means co-operation between universities and other partners with a view to the production and supply of internationally competitive, high-standard educational services by means of intensified university networking, a diversified provision of top-quality education and research, the development of relevant pedagogic know-how, innovative application of ICT to teaching, and an attractive alternative to ordinary higher education.

University of the Third Age (UTA)

The university programmes for the third age are a special form of open university. Their aim is to impart knowledge of topical research findings to older people, as well as to offer them opportunities for independent studies at the university level without formal qualification requirements. The University of the Third Age (UTA) is a meeting place for scientific knowledge and life experience.

All the UTAs in Finland are connected with the universities. In some cases the programmes are arranged jointly with local summer universities. UTA programmes have been extremely popular in Finland from the outset. The total number of participants each year is about 4400 older people, 80 per cent of whom are women. The average age of the participants is 69 years, their basic education varying from primary level to tertiary.

Lifelong learning

Lifelong learning is at the heart of Finnish national education policy. Degree structures have been planned to be compatible at the national level, and individual learning paths have also been made available across the board, including in universities. The credit system has made the modular structure possible and university students can combine work and studies fairly freely. The university degree reform in autumn 2005 will further enhance lifelong learning opportunities in higher education.

Diploma Supplement

The Finnish universities and polytechnics have adopted the international Diploma Supplement, which has been jointly designed by the EU, the Council of Europe and UNESCO to provide information about the studies completed by the student, the status of the degree and the qualification provided by the degree for further studies and for jobs. In Finland the universities and polytechnics have a statutory duty to issue a Diploma Supplement to the student on request.

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CHAPTER 10

PROMOTING CROSS-BORDER RECOGNITION AND MOBILITY
DEVELOPMENTS IN THE NETHERLANDS

Jindra Divis, Astrid Scholten and Anne Marie Mak

CHAPTER SUMMARY

Reliable and transparent information about national systems of education – especially about national quality assurance and accreditation mechanisms – are of great importance for the promotion of cross-border recognition and mobility. The term cross-border education refers to (a) programmes offered by an educational institution in one country that can be followed by students from abroad, or (b) education provided by a cross-national group of co-operating institutions for students from various countries. Providers of e-learning study programmes (i.e. distance learning programmes supported by the new information and communication technologies) should try to gain access to national education systems or, if this is not possible, jointly define quality standards and criteria. For "consumers" of (distance) education – students and employers – but also credential evaluators and administrators at other educational institutions, it is important to know what the quality status of a given study programme is. Transparency instruments, such as the Diploma Supplement and the European Credit Transfer System, can be of additional help in enhancing recognition of e-learning. To further enhance international recognition of all forms of lifelong learning the practice, of international credential evaluation should be combined with instruments for prior learning assessment and recognition.

INTRODUCTION

To promote incoming and outgoing mobility it is of the utmost importance that countries provide reliable and transparent information on their national systems of education. This includes information on quality assurance and accreditation systems, how these systems work and who is responsible for what. The quality and (accreditation) status of an institution or a specific programme are among the basic questions that students, employers and others want answered. The above is also of importance for distance higher education, especially for the study programmes that are offered cross borders using new information and communication technologies (ICTs). ICT-supported distance

education (or e-learning) has tremendous potential for the internationalisation of higher education. ICT does not only expand the possibilities for co-operation between providers of education, it also offers students and staff who are not able to travel the opportunity to become "virtually mobile" (van der Wende, 1998). To promote virtually mobility and the recognition of e-learning courses, it is of utmost importance that there be reliable and transparent information about the courses on offer, the provider and the status of the qualification or certificate awarded after successful completion. Via the Internet there is access to an abundance of information but it is very difficult for "consumers" to determine the reliability and focus of the facts on offer. Different target groups are interested in reliable and transparent information on quality assurance and accreditation of (ICT-supported distance) higher education and the recognition status of the respective qualifications. First of all, there is the group of (potential) incoming students who need it to make a deliberate choice. Foreign students should be aware of all the possible implications of choosing an institutions and/or study programme. They should have a guarantee that their choice of programme meets basic quality criteria, and that the credential awarded upon completion is recognised in the host country, in their own country and elsewhere. Second, international credential evaluators or administrators need this information for credential evaluation purposes. Employers form a third group.

The Netherlands NARIC/ENIC, located at Nuffic (the Netherlands organisation for international co-operation in higher education) aims to facilitate cross-border recognition for both outgoing and incoming mobility. Nuffic is a non-profit professional organisation aimed at making education accessible all over the world. Nuffic's main areas of activity are: development co-operation, internationalisation of higher education, international credential evaluation and marketing of Dutch higher education. Nuffic strives to be an intermediary between the education community of the Netherlands and the international community. Since the rise of e-learning Nuffic has stressed the importance of attention to quality assurance and accreditation mechanisms for this type of education.

The work of Nuffic and the Dutch NARIC/ENIC has changed over the past few years as a consequence of the Bologna process. This chapter describes two developments that have taken place at Nuffic to further promote cross-border mobility and recognition for both incoming and outgoing students. The first relates to linking the field of expertise of quality assurance and accreditation to international credential evaluation. The second refers to the identification, assessment and recognition of prior learning as a further development of traditional international recognition or credential evaluation.

INTERNATIONAL RECOGNITION AND QUALITY ASSURANCE

In June 1999, 29 European ministers in charge of higher education met in Bologna to lay the basis for establishing a European Higher Education Area by 2010 and promoting the European system of higher education worldwide. In the Bologna Declaration, the ministers affirmed their intention to:

- adopt a system of easily readable and comparable degrees
- adopt a system with two main cycles (undergraduate/graduate)
- establish a system of credits, such as the European Credit Transfer System (ECTS)
- promote mobility by overcoming obstacles
- promote European co-operation in quality assurance
- promote European dimensions in higher education

The Bologna Declaration was followed by the Prague Communiqué (2001) and the Berlin Communiqué (2003). Over the years, the importance of lifelong learning, quality assurance and the recognition of qualifications awarded in the European Higher Education Area was more and more emphasised. The Bologna process has an important impact on Nuffic's work in the realm of international credential evaluation. Among others it has strengthened the link between international credential evaluation and quality assurance.

Quality assurance is one of the main issues in the Bologna Declaration. At national level, quality assurance and accreditation is important to ensure accountability, public protection and quality improvement. From an international perspective it also fulfils a major function for cross-border mobility. Quality assurance and accreditation is an important precondition for the recognition of a country's higher education qualifications abroad. The field of international credential evaluation depends on reliable information about a country's quality assurance and accreditation mechanisms. The purpose of international credential evaluation is to determine to what extent a foreign qualification is comparable to the general educational level, the general content and the function/goal of a similar national qualification in the receiving country. Among others, the quality status of a study programme or educational provider is an important evaluation criterion for international credential evaluators. In this respect, it is not important whether a country has implemented a system of quality assurance or quality accreditation, two different concepts. If the quality of a qualification has been assured by means of a valid quality assurance mechanism or accreditation system, this may provide clear and reliable information for credential evaluators to base their recognition decision on.

In most countries, the traditional distance education sector (e.g the traditional open universities) forms an integrated part of the national education system and as such benefit from the quality assurance and accreditation mechanisms. As a consequence the awarded diplomas and degrees are nationally recognised and international credential evaluators do not treat these qualifications differently than those from "regular" study programmes.

Reliable quality assurance mechanisms and/or accreditation systems have become even more important due to the fact that national laws and regulations and international agreements on international recognition presuppose their existence. In Europe, the Lisbon Recognition Convention and the European Directives provide a legal framework for cross-border recognition. These legal instruments base their methodology on the existence of such national systems of quality assurance or accreditation. For example, the Lisbon Recognition Convention is applicable to qualifications awarded by institutions belonging to a national education system. Quality assurance and accreditation, if they exist in the country involved, are considered to be part of that national education system. If ICT-supported distance courses are part of tuition leading to nationally recognised qualifications, then legal recognition instruments like the convention apply. It is then assumed that these courses fall within the boundaries of the quality assurance mechanisms of the institution involved. However, this approach disregards – indeed, it must disregard – the question of whether this methodology uses specific quality assurance standards and criteria for ICT-supported distance courses.

Alternative systems and mechanisms of quality assurance might be useful, especially in fields where national systems are not available. One example in many countries is the field of non-degree programmes or ICT-supported transnational higher education. Transnational or cross-border education and programmes that are offered via distance learning or virtual education may or may not belong to one single national education system. It is recommended that the providers of these programmes either try to join national quality assurance and accreditation systems or take the initiative in setting

up their own accreditation or certification agency. However, any quality assurance or accreditation system that is not backed by national or other competent authorities is very difficult for outsiders to judge.

A similar problem appears with joint degrees, which are offered by higher education institutions in various countries. Such programmes are often not covered by a national quality assurance or accreditation system. Even though one would expect such cross-border forms of education to be internationally recognised, they are a complicated matter for credential evaluators as their status and quality are often hard to identify. The Bologna process reinforces the rise of international co-operative forms of education and, especially given the emphasis on *international employability*, an urgent solution is required to enhance recognition in these fields, too.

INTERNATIONAL INITIATIVES TO PROMOTE QUALITY ASSURANCE

To achieve transparency in quality assurance and accreditation at the international level, close collaboration between national and international parties is required. Due to the impact of quality assurance on international recognition, this process is also of great importance for the NARIC/ENIC networks, which are major players in the process of international recognition. This section gives an overview of the most important international developments regarding quality assurance in higher education (see also Divis, forthcoming).

An important actor promoting quality assurance at the European level is the European Association for Quality Assurance in Higher Education (ENQA). ENQA and the NARIC/ENIC networks have set a joint agenda to develop an information system on national quality assurance and accreditation mechanisms for foreign target groups and a common language on how to deal with cross-border education. In addition, the European University Association (EUA) and the National Unions of Students in Europe (ESIB) fulfil key roles in enhancing quality in higher education institutions, making national systems as transparent as possible and achieving international recognition of other countries' quality judgments and accreditation statements.

A number of accreditation organisations, including members of the ENQA, originally from eight countries that introduced national accreditation systems, have established the European Consortium for Accreditation (ECA). The ultimate objective of ECA, in short, is to accept each other's national accreditation statements. This might be crucial for international recognition, because these countries could use ECA to automatically recognise each other's national degrees instead of on a case-by-case basis. The NARICs/ENICs from Flanders and the Netherlands are the first two to do this (see the section below).

The Joint Quality Initiative is an informal network of representatives primarily from quality assurance organisations and ministries in Europe. The network aims to increase international collaboration on quality assurance and to enhance the transparency of European Bachelors and Masters programmes. From the perspective of recognition, the JQI's most important output is the document *Shared descriptors for Bachelors and Masters degrees* (the "*Dublin descriptors*"), in which generic learning objectives or competencies are formulated.

UNESCO's European Centre for Higher Education (CEPES) also provides important backstopping in the field of accreditation. As part of a project on *Strategic Indicators for Higher Education in the Twenty-First Century*, CEPES has analysed the quality

indicators currently being used for the accreditation of educational institutions and programmes. In this way it can play a useful role in elaborating performance indicators that are used internationally for quality assurance and accreditation. In October 2002, UNESCO launched the *Global Forum on International Quality Assurance, Accreditation and the Recognition of Diplomas*, which aims to focus attention for issues relating to quality assurance, accreditation and international recognition on the agendas of the higher education sector and national and international policy-makers. UNESCO pays specific attention to the issue of cross-border education.

In 2004, in co-operation with OECD, UNESCO initiated a project on *Guidelines for Quality Provision in Cross-border Higher Education*, which aims to develop guidelines for national stakeholders on how to provide quality cross-border education. Part of this project is the establishment of an international information tool on recognised higher education institutions. This initiative has great potential in relation to international recognition, in offering a solution to one of the main problems of recognition: cross-border provision.

A final important international initiative is the International Network of Quality Assurance Agencies in Higher Education (INQAAHE). This network aims to gather and disseminate information on existing and forthcoming quality assurance methodologies in higher education and promote best practices. It fulfils an important network function, as it provides a forum where quality assurance and accreditation organisations can meet. The network also fosters the use of credit transfer systems and encourages educational institutions to provide materials to facilitate the international recognition of diplomas. In addition, it intends to provide a warning system for dubious accreditation processes and organisations.

DEVELOPMENTS IN THE NETHERLANDS

In 2002, in the early years of the Bologna process, the Netherlands made the switch from a quality assurance system to an accreditation system. The accreditation system was introduced together with the Bachelors and Masters degree structure. It was not built from scratch; the Netherlands already had an elaborate system of quality assurance, which was even imitated by other countries. The Dutch quality assurance system was managed by the two umbrella organisations of universities and universities of professional education. The final statement was not an official recognition or accreditation decision but a quality judgment by visiting peers, formulated by the quality assurance agency in a final report.

At the heart of the new system introduced in 2002 is the NVAO (Netherlands-Flemish Accreditation Organization), which is responsible for accrediting existing programmes and assessing new programmes. If a programme receives accreditation, the institution is entitled to award recognised diplomas and degrees for that programme for the coming six years, and students may obtain a student grant/loan while enrolled in the programme. Furthermore, government-funded institutions receive funding in respect of their accredited study programmes. Providers of e-learning degree programmes can also pose a request for accreditation provided that institution is situated in the Netherlands. The NVAO applies the same standards for e-learning as for regular courses as these are broad enough to relate to the specific requirements of this type of education. Till now, no e-learning courses have been accredited. Non-degree programmes do not qualify for accreditation at present.

The accredited programmes of government-approved or government-funded institutions qualify for inclusion in the Central Register of Higher Education Programmes (CROHO). In addition, the NVAO administers its own register.

Nuffic (the Netherlands NARIC/ENIC) plays a crucial role in recognition. Because of its focus on foreign target groups in many of its activities, Nuffic provides information on the Dutch educational system in general and specific programmes targeted at the foreign student body in particular to foster incoming mobility. Nuffic hosts a Web site to inform potential students on "Study in the Netherlands" (www.studyin.nl). The number of e-learning courses is still very limited in the Netherlands. As a consequence, these programmes are not included in this database. In addition, in the context of a pilot project of the ENQA and the ENIC/NARIC networks, Nuffic has developed a Web site in co-operation with the NVAO which explains the quality assurance and accreditation facilities in the Netherlands from the perspective of the foreign student. The Web site covers both the regular national education system and the private sector. It also tries to help students to ask the relevant institutions the right questions before starting a study programme in the Netherlands. This Web site will be launched in 2005 (www.nuffic.nl/qa-in). This Web site does not specifically address e-learning; nevertheless, providers of e-learning programmes can use the Web site to find out which issues need to be addressed in their study programme information.

To foster outgoing mobility, Nuffic promotes all the relevant tools and activities developed or identified by the NARIC/ENIC networks in the Netherlands. In the 1990s it promoted the Diploma Supplement and ECTS, as well as application of the methodology of the Lisbon Recognition Convention (although the Dutch government had not yet ratified the Convention). The Diploma Supplement aims to promote transparency and recognition of higher education qualifications for academic and professional purposes. UNESCO-CEPES has developed a template that can be used by institutions to provide all the required information about a study programme to enhance recognition. Other examples of relevant tools to be promoted are the *Code of Good Practice in the Provision of Transnational Education* and the *Recommendation on the Recognition of Joint Degrees*, both official documents of the Lisbon Recognition Convention regime. Furthermore, Nuffic offers two credential evaluation products for students who have earned a Dutch diploma. First of all there is the *equivalence letter*, which contains information that answers the questions most frequently asked by credential evaluators in other countries. Second, there is the *diploma description*, which is issued on request to individual graduates. This documents provides information about the Dutch study programme that was followed.

Lastly, accreditation and international recognition are being integrated in another, unique way. Because both Flanders and the Netherlands integrated their accreditation systems for higher education programmes into one organisation based on a bilateral agreement, the two NARICs/ENICs (the Flanders Ministry of Education and Nuffic) decided to investigate the possibilities of automatic recognition of each other's national degrees and even the automatic recognition of each other's recognition statements regarding credentials from third countries. After the necessary consultation rounds with the relevant stakeholders in both countries, the Flemish and Netherlands NARICs/ENICs will commence their co-operation in mid-2005. In this way, common accreditation will result in a common recognition (or evaluation) area.

IDENTIFICATION, ASSESSMENT AND RECOGNITION OF PRIOR LEARNING

As a consequence of the Bologna process, recognition of lifelong learning has also grown in importance. The education ministers have included this concept in the Bologna process in Prague in 2001. This poses a major challenge to credential evaluators especially if

the qualification resulting from the various lifelong learning forms do not belong to the formal school system that is covered by national quality assurance and accreditation mechanisms.

To foster *incoming mobility*, it is important that facilities for international credential evaluation and the assessment of prior learning exist both at the institutional level, e.g. at the admissions offices of educational institutions, and at the national level, e.g. at national information centres (NARICs or ENICs), which in many countries play a crucial role in credential evaluation. Credential evaluation is one of the main instruments for recognising incoming mobility. Recognition of foreign credentials can be required for various reasons. Generally, a distinction is made between academic and professional recognition. Academic recognition is when someone wishes to be admitted to a course of education or use their academic title in the receiving country. Professional recognition refers to situations when someone wishes to enter the labour market or obtain permission to work in a regulated profession in the receiving country. Regulated professions are legally protected, which means that an appointed institution has to recognise the professional competence of an applicant before he or she is allowed to work in the profession. The most important legal instrument to improve academic recognition is the Lisbon Recognition Convention. European Directives have been developed for the promotion of professional recognition.

Nuffic has been responsible for the credential evaluation of higher education diplomas and degrees for several decades. It serves Dutch institutions of higher education, ministries and governmental bodies. Based on the credential evaluation, final decisions on admission to educational courses or access to professions are taken by the authorities concerned. To answer individual requests for international credential evaluation, Nuffic is part of the Dutch international credential evaluation structure. Individuals can request credential evaluation at some 125 regional centres.

However, with the advent of lifelong learning, national credential evaluation offices (NARICs/ENICs) are confronted with a new and major challenge. As already mentioned, new forms of education, such as transnational education, virtual courses, various types of post-initial education and work-based learning are emerging. It is acknowledged and encouraged that people continue to learn after completing initial and post-initial formal study programmes that result in nationally recognised diplomas. Lifelong learning takes place in a large range of different learning environments of varying formality. European policies therefore call for all of these forms of learning to be recognised. Due to these developments, Nuffic has identified the need for a methodology to link international credential evaluation and the recognition of competencies, internationally referred to as *Prior Learning Assessment and Recognition (PLAR)* or *Assessment of Prior Learning (APL)*. In situations when foreign qualifications are not recognised, or additional information about a person's competencies is required in the recognition process, assessment instruments that evaluate all forms of learning should be used (Nuffic, 2001).

In the case of distance education qualifications, as long as these are part of a nationally recognised or accredited education system, the qualifications are evaluated in the same way as qualifications awarded by other institutions belonging to the traditional education system. However, if this is not the case and international credential evaluators are unable to find sufficient information on the quality or status of the provider or the study programme that was followed, it will not be possible to evaluate the distance education qualification, and a PLAR procedure would be recommended to find out what the person in question has learned.

A portfolio is an instrument with the potential to identify and present competencies gained during both formal and non-formal experiences. According to Klarus (1998), developing a portfolio enables a person to describe and clarify their competencies, which in turn enables an assessor to evaluate the professional competence of the person for the purpose of recognition. The content of the portfolio and the evidence that is required depends on the purpose for which recognition is sought (the "recognition claim"). In addition to the portfolio instrument, other assessment instruments to collect further information can be used. Examples of such instruments are interviews, theoretical or practical examinations, authentic professional assignments in the workplace or in simulated environments. Based on all the information collected during the assessment process, a recognition decision is taken (see also Figure 9.1).

Figure 9.1: *Linking international credential evaluation and PLAR*
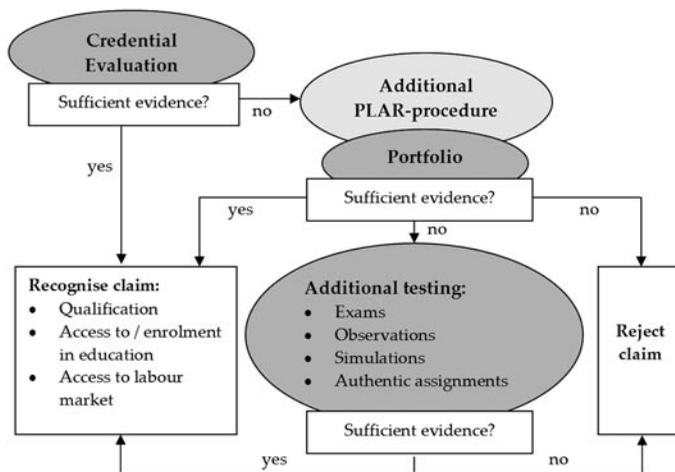
Since 2002, Nuffic has been working on the development of a portfolio instrument that can help foreign trained immigrants to present their competencies. Specific experience was gained with portfolio development by foreign medical doctors from outside the EU/ EER region for the purpose of enrolment in the medical faculty (Nuffic, 2005). A digital portfolio format evolved that can be used by incoming students or workers to present their (formal and informal) learning activities (see Table 9.1).

Nuffic views the portfolio instrument as an important communication tool between the potential student or worker and the recognising party (educational institution or employer). It can enhance assessment of non-formal learning activities if these are effectively described and documented. Preferably, the portfolio also contains evidence such as diplomas, certificates, work contracts and products of work that show what a person is able to do. Again, objective transparent information about the aim, structure and content of study programmes or courses followed can serve as an advantage. Experience so far shows that the portfolio instrument empowered foreign trained immigrants and shed light on other forms of learning that are otherwise kept in the dark. To foster recognition of all forms of learning, the development of additional, more objective, competency-based assessment instruments is welcomed.

Table 9.1: Outline of the portfolio format

1. Curriculum Vitae	Brief overview of factual information, such as personal details, education, medical activities during study, working experience, experience in the Netherlands, computer and language skills and information on fluency in Dutch. The following sections elaborate on these topics.
2. Formal education and other courses	More extensive descriptions are given about the structure and content of the candidate's formal education and additional courses he or she has taken.
3. Work experience	Further elaboration on working experience. For each job, information is given about the type of organisation, the tasks and responsibilities, the field of expertise and the way in which the candidate co-operated and communicated with colleagues.
4. Experience with scientific research	This section is dedicated to describing experience in scientific research. A brief description of the research activities is given, focusing on the context and occasion, goals and research questions, design, results and conclusions, reflection and recommendations and any publications.
5. Experience in the Netherlands	Description of experiences in the Netherlands. For each (voluntary) job or internship, information is given about the type of organisation, the tasks and the feedback that was received from supervisors or colleagues.
6. Expertise development and maintenance	This section contains information about the way the candidate developed and maintained his or her professional expertise in the country of origin, and how he or she tries to do this in the Netherlands.
7. Future perspective	Description of the position the candidate would like to have in the Netherlands, and the steps that need to be taken to achieve this goal. The candidate is encouraged to reflect on his or her situation and the possibilities and challenges that might affect the chance for achievement.

CONCLUSION

To promote incoming and outgoing mobility, it is important that countries provide reliable and transparent information on all forms of learning. Transparency instruments that have been developed at the international level can serve as an example, e.g. the use of ECTS to define study load, Diploma Supplement. Organisations in the fields of both quality assurance and international recognition should play an important role in this information provision. Ideally, they should work together, because the combination of both perspectives and the knowledge of the needs of their specific target groups provide the necessary added value. Furthermore, it is important that quality assurance and accreditation systems, supported by the national authorities, should open themselves to all providers and all forms of educational provisions, including e-learning study programmes and cross-border provision. Only then will fair assessment and recognition

of all possible credentials across borders be possible. Portfolio development can form a valuable addition to international credential evaluation to identify and document all forms of learning. Additionally, more objective test instruments should be developed to assess competencies further. Nuffic will continue to work on the development of instruments for the assessment of prior learning of immigrants. In this process, it will continuously take note of developments at European and international levels and, where possible, link up with instruments developed internationally.

POLICY CONSIDERATIONS

The policy issues that can be drawn from the above are summarised below:

- ***Make sure that reliable and transparent information about the national quality assurance and accreditation system is easily available for potential students, international credential evaluators working at national information centres or at educational institutions and employers.***

  Whether a diploma, degree or qualification will be officially recognised in another country depends to a large extent on the quality of the study programme and the institution providing it. Students intending to study abroad should therefore first make enquiries about the quality of their proposed programme and institution and about the recognition that their diploma will have on return to their home country. Similarly, people and organisations involved in the evaluation of diplomas awarded in other countries — admissions officers at educational institutions, employers hiring holders of foreign credentials and credential evaluators at recognising organisations — need to know if and how the basic quality of a specific programme has been assured. This sort of information is not always readily available, but even when it is, it may not be intended for an overseas readership. With this in mind, Nuffic in the role as Netherlands NARIC / ENIC and the Netherlands Flemish Accreditation Organisation (NVAO) took the initiative to develop a Web site for overseas readers that contains all the information they need on quality assurance and accreditation in the Netherlands. This initiative is being supported by the ENIC and NARIC networks and the European Network for Quality Assurance in Higher Education (ENQA).

- ***Providers of distance e-learning should try to gain access to national (or international) quality assurance and accreditation systems***

  It is advised that providers of distance e-learning follow the providers in the traditional distance education sector. However, they may be confronted with criteria and standards that do not apply to their specific type of education. An alternative would be that e-learning providers jointly define standards and criteria. In a later stage these standards can be integrated in national (or international) quality assurance systems.

- ***Make sure that reliable and transparent information about the aim, structure and content of the study programme is available by issuing a Diploma Supplement.***

  The Bologna process has contributed to putting recognition issues at the centre stage of the higher education policy debate in Europe. The automatic issue of the Diploma Supplement free of charge in a widely spoken European language by 2005 is one of the key policy measures of this process. Institutions offering virtual study programmes or courses must make sure that they issue reliable and transparent information on the aim, structure and content of the programme or course.

- *Make sure that incoming students can present all their learning experiences so that recognition decisions are not solely made on the evaluation of formal (traditional) qualifications.*

  To enhance recognition of all forms of learning, formal, non-formal, distance, virtual or work-based, a combination of international credential evaluation and prior learning assessment is required. Nuffic has chosen to work with the portfolio instrument to enhance the identification, assessment and recognition of competencies. Through portfolio development immigrants become empowered and the recognising parties become better informed about prior learning experiences. Also in this process, the availability of objective, reliable and transparent information about prior learning is welcomed.

RELEVANT INTERNET SITES

Bologna process
www.bologna-bergen2005.no

ENIC and NARIC network
www.enic-naric.net

UNESCO's European Centre for Higher Education (CEPES)
www.cepes.ro

Dutch International Credential Evaluation Structure
www.idw.nl

International Network of Quality Assurance Agencies in Higher Education (INQAAHE)
www.inqaahe.org

Joint Quality Initiative
www.jointquality.org

Lisbon Recognition Convention
www.enic-naric.net/instruments.asp?display=legal_framework

Study in the Netherlands
www.studyin.nl
This Web site provides information about study in the Netherlands for potential incoming students.

Quality Assurance in the Netherlands
www.nuffic.nl/qa-in
This Web site explains the system of quality assurance currently in place in higher education in the Netherlands.

UNESCO's European Centre for Higher Education (CEPES)
www.cepes.ro

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Notes

1. The European Commission has established the network of National Academic Recognition Information Centres (NARICs) to identify and solve problems regarding mutual recognition in the EU. The network of European National Information Centres on Recognition and Mobility (ENICs) of the Council of Europe and UNESCO has a similar function with a wider geographical reach. Nuffic has been designated by the Dutch Ministry to serve as the Netherlands NARIC and ENIC.

2. More information about the Lisbon Recognition Convention can be found at: *http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=165&CL=ENG*

3. More information about the European Directives can be found at: *http://europa.eu.int/comm/internal_market/qualifications/index_en.htm*

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CHAPTER 11

CHARTING THE EVOLUTION OF LIFELONG LEARNING AND DISTANCE HIGHER EDUCATION: THE ROLE OF RESEARCH

Tony Bates

CHAPTER SUMMARY

This personal review of research into distance higher education indicates the large quantity and variable quality of research in this field. The article focuses on research that identifies indicators of success in distance higher education. In particular, the chapter examines research on or developments in: the demographics and characteristics of distance learners; attrition/completion; market needs and the link between online learning and knowledge-based economies; different generations of distance higher education; different forms of learning through online instruction; distance learning technologies; and the organisation of research. Despite a shortage of good quality research, the chapter concludes that there is a substantial body of knowledge validated by research that decision-makers ignore at their peril.

THE GROWTH AND DEVELOPMENT OF RESEARCH INTO DISTANCE HIGHER EDUCATION

This chapter focuses on the development of research in the area of distance higher education. I take a broad definition of lifelong learning. For me, lifelong learning is any form of deliberately chosen learning activity by a person outside the conventional campus-based school or college system. Lifelong learning may be for pleasure, intrinsic interest or for career development. However, this chapter focuses on just one of these areas of lifelong learning, higher education provided by distance education.

A significant body of research into distance higher education started to develop in the 1970s and 1980s. As a result of the rapid expansion in distance education, exemplified by Britain's Open University, a number of journals were established to publish research in this area. One of the first was *Teaching at a Distance,* created in 1974 at the Open University. The journal changed into *Open Learning*, which is still published today.

The Journal of Distance Education (published by the Canadian Association of Distance Education, with articles in English and French) was first published in 1986, followed by *The American Journal of Distance Education*, published by the American Centre for Educational Research at Penn State University and *Distance Education*, published by the Open and Distance Learning Association of Australia, both in 1987. There are now over 40 refereed journals in distance education, published in many countries. Most are published in English, although there are also journals in French, Spanish, Chinese and other languages.

Taking into account the books on research in distance education and the hundreds of PhD theses on distance education and the many other publications on related areas, such as curriculum design, educational psychology, educational technology, online learning, educational broadcasting, communications studies and higher education policy, it can be seen that the research literature in distance higher education is substantial, so any review of the literature in the space available for this chapter will be less than comprehensive.

Although the quantity of research publications in this field is high, the quality is more of a problem. Many articles are based on a single case, are descriptive and qualitative, rather than analytical and quantitative and most do not build on or contribute to theory, thus making generalisation difficult or impossible. Nevertheless, despite these limitations, there is now a solid base of research findings that provides clear guidelines for the establishment of successful distance education practice. Unfortunately, institutional decision-makers are often unaware of this research literature, which explains why so many distance education initiatives fail. My focus therefore in this article will be on well-founded research that provides indicators of success (or failure) in distance higher education.

RESEARCH INTO LEARNERS AND THEIR NEEDS

Demographics

There have been a number of studies on the demographics of distance learners. McIntosh, Calder and Swift (1976) did an extensive analysis of Open University enrolments. They found that OU students were generally older (all were 21 years or over and 40 per cent were between 25-34 years of age), there was a higher proportion of women than men, students were socially mobile (in 1971 only 6 per cent were from working class occupations, although for 51 per cent of entrants, their parents' occupational category was working class) and the majority were working. About 40 per cent of the students in 1971 entered the university without the minimum qualifications for admission to traditional colleges and universities in England.

These characteristics of distance learners have been relatively stable over time and across different kinds of institution, at least in economically advanced countries. For instance in a survey of distance education students at the University of British Columbia in Canada in 2000, the students taking undergraduate distance courses were on average several years older than students taking the same classes on campus, a greater proportion of the distance students were women and more distance students were employed. These differences in demographics were similar to the Open University, except that the distance students at UBC required the same high academic qualifications as campus-based students to be admitted.

Another common characteristic was that the vast majority of UBC distance education students in the survey were not truly distant. The majority (83 per cent) lived within one hour of travel to the university and almost half within the City of Vancouver (population 600,000). Only 6 per cent of the enrolments were from outside the province. Thus for many students, distance education is about flexibility and/or open admission, not about geography.

Completion rates

Distance education drop-out — or its converse, completion rates — is a very popular topic for research, particularly for Ph.D. students (presumably because supervising campus-based faculty are suspicious of distance learning). Unfortunately for such students, they soon find that the issue is complex and probably even more disturbing, that it has already been researched to death. The standard text in this area is Kember (1995). Kember has adapted a general model of attrition and non-completion for conventional students to distance education. His and other studies (e.g. Evans, 1994) have identified lack of finances, a history of learning difficulties in school, conditions at home, such as lack of a quiet area to study, unexpected or unavoidable pressures from work, sickness in the family, and a failure to understand the necessary time commitment before enrolling, as all causes of drop-out or non-completion.

Fenner (1998) found that attrition is much higher at the beginning of a distance course than towards the end. Up to 80 per cent of all withdrawals are usually within the first week of a distance course. Fenner also found that if students were enrolled in a distance programme, students who completed their first couple of courses were very likely to complete the whole programme.

The main factor influencing attrition in distance education courses is the overall design. For instance, at UBC, the completion rate for distance education courses is around 85 per cent and for similar campus-based courses 90 per cent. Distance students at UBC have good academic qualifications, and professionally designed online courses with regular and high quality online tutoring, often from the tenured faculty who teach the on-campus courses. In contrast, Belawati (1998) reported attrition rates as high as 95 per cent at Universitas Terbuka, the Indonesian Open University, which she attributed to the poor or non-existent tutorial services. Also, Universitas Terbuka was designed to compensate for a lack of regular university places for high school graduates. However, at the British Open University, Woodley and McIntosh (1980) indicated that distance education is not a good alternative to regular campus-based teaching for younger students (18-19 years old). In a pilot scheme, the younger students had a much higher attrition rate than the regular Open University students, who at that time had to be at least 21 years old to be admitted.

The Open University claims that just over 50 per cent of students who initially enrol go on to complete a full bachelors degree from the university. However, many distance students have no desire or intention to do a whole degree. Lifelong learners in particular may be interested in taking only those courses that have a specific interest or value for them. We should in any case expect a higher non-completion rate from distance learners. Many cannot take courses from regular universities because of family or work commitments or lack of qualifications, so such students are often higher risk to start with. Nevertheless, the main outcomes of research into drop-out in distance education is that attrition can be markedly reduced by good course design and by good quality personal support through tutors (Tait and Mills, 2002; Brindley, Walti and Zawacki-Richter, 2004).

Student characteristics associated with success
in distance higher education

There has been considerable research to identify if there are particular characteristics of students associated with success in distance higher education, such as particular learning styles. Generally, this research has failed to find much of significance. However there are one or two important exceptions.

Independent learning

From the early days of distance education, theorists have argued that distance education requires or must develop autonomous or independent learners. Moore (1983) emphasised that learning is a developmental process and students can learn to become more autonomous. He argues that explicit design is required to bridge the gap between teacher and learner, to support autonomous or independent learning. Moore and Kearsley (1996) found that learners with previous experience of using the media of communication and with higher knowledge levels of the subject matter tend to participate more interactively and independently in learning activities. Subsequent research has established that not surprisingly, students who already have independent learning skills do better at distance education and that such learners are more likely to be found in distance education courses compared with face-to-face courses. This has practical consequences for designing distance education programmes. For instance, at UBC, distance education is focused on third and fourth year undergraduate and graduate programmes, where students already have higher levels of subject knowledge and have begun to develop more autonomous learning skills.

Lifelong learners generally make good distance education students because they are more likely to have developed learner autonomy during their previous face-to-face education, especially if they have already been to college or university. This research also suggests one reason why drop-out is often high in open universities in less economically advanced countries: for financial reasons distance learning is used to replace rather than supplement conventional university education for 18-21 year olds, but many of these students lack independent learning skills.

RESEARCH INTO MARKET NEEDS

Market demands of knowledge-based economies

Unable to compete with low labour costs in developing countries, more advanced economies are trying to create highly productive (and high wage) knowledge-based industries, such as computing, telecommunications, financial systems, health and education itself. Such industries depend on a highly educated work force, thus leveraging an advantage over less economically advanced countries.

Education and training of the workforce is now a high priority for many governments and this education and training must be continued throughout a person's lifetime, given the continuing pressure to remain competitive. It is hard to quantify the need for "workforce" education and training. However, if we assume that a person will need to retrain at least five times in a working lifetime, and that such retraining requires the equivalent of three months' full-time learning (probably a gross underestimate), then

the current capacity of the education and training market, public and private, probably needs to be at least doubled in most knowledge-based economies (Open Learning Agency, 1992).

Online learning and knowledge-based economies

In knowledge-based economies, there is a need for skills such as seeking, analyzing and applying information, independent and lifelong learning, problem-solving, creative thinking and teamwork. The education of knowledge-based workers requires an approach that enables them to learn both inside and outside conventional higher education institutions. Such learners must be encouraged to analyze and criticise, to offer alternative solutions and approaches and to take risks. This kind of learning cannot be easily done in large lecture classes or through mass communications such as broadcasting (see Bates and Poole, 2003, for more discussion of this issue).

Governments see two quite distinct roles for online learning (or e-learning), delivered through the Internet. They see online learning as a new knowledge-based industry, able to lever the advantage of advanced educational systems to create educational products and services that can be marketed internationally and indeed, many new companies have been created to provide online learning for both the corporate and to a lesser extent, the public sector. Governments also see online learning as an important tool for improving the quality of education and for producing technology-savvy graduates, able to use new technologies in the new economy.

Business also sees a value in online learning as a way of increasing competitiveness through ensuring that the workforce is continually learning and improving. In particular, online learning is seen as an essential component of knowledge management, allowing companies to become "learning organisations" (see Senge, 1990, and Rosenberg, 2001). Because training is costly, efforts are being made to find more cost-effective ways to train. Consequently, in the last few years, online learning has been applied on a large scale in corporate training. Some major companies have demonstrated substantial financial and operating benefits as a result of switching to online training (Strother, 2002).

Most importantly, *individuals* see distance learning providing the flexibility they need to continue their education or training while still working or with family responsibilities. The rapid growth of knowledge in areas such as health, technology and management require people working in these areas to continue to study and learn, just to keep up with the knowledge base of the job. Distance education, and in particular online learning, are ideal methods for lifelong learners.

Irrespective of the country, it is likely that agricultural, industrial and knowledge-based economies will exist side by side, but the proportion of the workforce in each sector will vary. However, it should be noted that the skills required in knowledge-based industries and the teaching methods needed to develop them, may not be so relevant for industrial or agricultural economies. Thus teaching methods and the choice of technology will need to vary depending on the dominant economic sector for which workforce preparation and training is needed. The implication for less economically advanced countries is that print- and broadcast-based open universities may be the priority for public funding, but some form of online learning will also be needed for professional elites, possibly privately funded (Bates, 2001).

RESEARCH INTO TEACHING

Generations of distance teaching

Distance education has gone through several stages of development. Taylor (1999) has proposed five generations of distance education:

- correspondence education;
- integrated use of multiple, one-way media such as print, broadcasting or recorded media such as videocassettes;
- two-way, synchronous telelearning using audio or video-conferencing;
- flexible learning based on asynchronous online learning combined with online interactive multimedia;
- intelligent flexible learning, which adds a high degree of automation and student control to asynchronous online learning and interactive multimedia.

The progression through these stages of development has been driven less by research than by changes in technology and educational theory. The first two generations (correspondence and multiple media approaches) have been associated more with systems-based and behaviourist or cognitive approaches to learning. These may be considered more teacher-focused and "industrialised", in that all students get the same material. Open universities and distance education units in dual-mode institutions adopted these methods, which are particularly suitable for industrial or agricultural economies. The third stage aims at replicating as far as possible the classroom model through the use of synchronous interactive technologies, such as video-conferencing and relies heavily on lecturing and questions. It offers no economies of scale, lacks flexibility for learners and is expensive, but is popular because instructors do not have to change or adapt their classroom teaching methods to any extent. This however encourages or reinforces traditional approaches to teaching such as lecturing, rather than developing the new skills needed in knowledge-based economies. The fourth generation is flexible learning based on asynchronous communication through the Internet and the World Wide Web (online learning). This stage is generally, but not exclusively, influenced by constructivist approaches to teaching and learning. Taylor's fifth stage is still experimental and applied mainly in his own institution (University of Southern Queensland).

Is distance education effective?

Moore and Thompson (1990) did a review of more than 300 studies on the effectiveness of distance education. They summarised this study as follows:

> The literature points overwhelmingly to the conclusion that teaching and studying at a distance, especially that which uses interactive telecommunications media, is effective, when effectiveness is measured by the achievement of learning, by the attitudes of students and teachers, and by cost-effectiveness (p. 34).

As Moore and Thompson themselves point out, simple comparative research between distance and campus-based teaching is not particularly helpful, because results in both contexts will depend on a wide range of variables. More useful research focuses on the

conditions for success. Conditions for success in distance education teaching and learning can be broken down into constitutent parts:

- *students*;
- *course design* (including: the organisation of the design process; the choice of pegdagogical or epistemological approach; and choice and use of media);
- *course delivery* (including: tutorial support; faculty development and training; and student assessment).

Through the analysis of research and best practices in all these areas, a quality assurance process can be established. This is a set of steps in developing and delivering programmes that if not guaranteeing success (Twigg, 2001), will at least ensure that programmes have a fair chance of succeeding.

Research into online learning

I will focus primarily on online learning (fourth generation), because it probably best reflects the current state of the art in more economically advanced countries and because it relates strongly to the needs of knowledge-based economies.

It is no co-incidence that online learning arrived at a point in time when constructivist approaches to teaching were being advocated in North American universities (see for instance, Jonassen et al., 1995). The asynchronous nature of online teaching, enabling students to control to some extent the pace and timing of their learning, allows for and encourages reflection. Online forums provide the opportunity for students to test ideas and build and construct knowledge through collaborative learning. Thus online learning became seen as a valuable tool for furthering constructivist approaches to teaching and learning; online learning was seized upon as a way of teaching *differently* from large lecture classes. With respect to online learning, research and theory aims at informing both the initial course design and the online communication between students and instructors or tutors.

Knowledge construction

Harasim et al. (1995) provide a good description of knowledge construction:

> "Understanding...grows out of interacting with information and ideas − for example, reconstructing ideas, setting ideas within frameworks, viewing multiple perspectives on ideas, questioning implications of ideas and posing theories or hypotheses about ideas....the learner actively constructs knowledge by formulating ideas into words, and these ideas are built upon through reactions and responses of others to the formulation." (Harasim et al.: 98)

A lot of the literature implies that just by creating an online environment these skills will be developed. However, this is not supported by research. For online discussion forums to enable learners to construct their own meanings, increase their depth of understanding of key concepts and principles in a subject and apply concepts and ideas to new contexts, research has indicated that very careful course design and online moderation are needed. What is not clear from the research is whether learners develop new knowledge that has not been constructed and validated before (although it may be new to them). It is also dangerous to assume that knowledge construction will always lead to better understanding of a subject area.

Moderators of online discussion forums then need to ensure that students are meeting the necessary academic standards in their online discussion, such as evidence-based argument, setting argument within a conceptual framework and relating discussion to the concepts and ideas covered in the course materials. If not, the discussion can easily deteriorate into a swapping of unsubstantiated opinions among students. Paloff and Pratt (2001) and Salmon (2000) provide guidelines for moderators to enable knowledge construction, although these studies are based more on direct experience than scientific research.

Critical thinking

The development of critical thinking skills is another argument put forward for Web-based learning. There are several reasons why educators favour asynchronous computer conferencing for more reflective, critical thinking. The opportunity for students to challenge course materials, to challenge other students' conceptions and arguments within a course and to find and compare multiple and perhaps conflicting sources of information should all help promote critical thinking.

Because computer conferences can be archived and analysed later, it is easier to evaluate these discussions than those that occur in the classroom. Despite this, once again it is difficult to find in the literature studies that relate specific design features of online teaching to the development of empirically validated critical thinking skills, although MacKnight (2001) and Scardamalia and Bereiter (1999) provide some guidelines on facilitating critical thinking skills and knowledge construction online within school settings. Thus Web-based learning provides the *potential* for the development of critical thinking skills, but there is still a need for active intervention by moderators and designers to ensure that critical thinking skills are actually developed.

Collaborative learning

One great advantage of online learning is the opportunity for students separated by time and place to work together on a common task. Learning to work together online is an increasingly important workplace skill, but it also provides opportunities for students to share experiences, to learn how to work collaboratively and to test and develop their own ideas, without being physically present. It is particularly valuable for courses where students are from different countries or cultures and for continuing professional development, where participants have relevant professional experiences to share and draw from.

There is, though, evidence that using the Web for collaborative learning is not without its own problems. The teacher must pay particular attention to ensure that students are clear as to their tasks, that they have adequate resources for the tasks and that there are clear guidelines for working collaboratively. There must be procedures in place to deal with conflict resolution within groups and for dealing with students who do not participate fully, or at all, in group assignments. Assessment of individual students can be particularly challenging when they are working in groups. In this respect, once again, the general literature on collaborative learning applies just as strongly to online as to face-to-face teaching. *Distance Education*, Vol. 23, No. 1 is devoted to research on collaborative and problem-based learning in distance education.

Cultural and ethical issues in international distance education

The development of online courses aimed at international audiences has led to concerns about cultural imperialism and the possible dominance of American programming (e.g. Boshier, et al., 1998). Mason (1998) came to the following conclusions following five case studies of international distance education programmes:

- a preponderance of English as the language for international distance programmes;
- cultural issues were not being explicitly addressed in these programmes;
- there was considerable diversity in the approaches to international distance education;
- going international forced a very careful consideration of the educational process in all the case-studies;
- there was a focus on business, IT and educational technology topics, reflecting the demands of the lifelong learning market.

Bates (2000; 2005) has criticised the ethics of some of the for-profit distance education programmes being developed by more economically advanced countries. Bates (2000) has also described some of the cultural issues in teaching at a distance that arise from differing approaches to teaching and learning in different countries, especially the differing relationships between teachers and students. He also noted the need for local cultural adaptation of courses and recommended joint and equal partnerships between institutions in different countries to ensure cultural relevance.

Possibly for these reasons, the fear of American domination of the international distance education market is so far unfounded. In major studies of international education providers for the Australian government, Cunningham et al. (2000) and Ryan and Stedman (2002) found little evidence that there would be "a tidal wave of new providers emerging … in the short term". However, they did warn that

> "the implications of commercialisation are profound. The new providers are not bound by norms or ideals of traditional higher education such as collegial governance, linked research and teaching, or academic autonomy and control" (Cunningham et al, 2000, p. 153).

Similarly, Murphy, Zhang and Perris (2003), reporting on online learning in Asia, commented: "Arguably, any simple 'imperialist' strategy has failed, for a variety of reasons", pointing out that "many Asian countries are already supporting others in the region and offering cross-border studies at a quality and cost that cannot be met by their Western counterparts." Thus, while caution is needed, experience is growing on developing successful international distance education programmes that respect and re-inforce different cultures. The whole of Volume 22, No. 1 of *Distance Education* is devoted to articles on cultural issues in international distance education.

There is clear evidence that when well designed, distance education can be as effective as face-to-face teaching, across a wide variety of subjects and target groups. As a result of constructivist theory, some very strong claims have been made for the benefits of online learning. However, to date, there is very little research to either deny or support those claims. Perhaps more importantly though, the development of online learning is seen as meeting the needs particularly of knowledge-based economies. In contrast, second generation distance education, based on the mass media of print and broadcasting, may give greater economies of scale while still meeting the needs of industrial or agricultural economies and thus may be more appropriate for less economically advanced countries.

RESEARCH INTO TECHNOLOGIES

There have been hundreds of comparative studies, comparing for instance the effectiveness of a broadcast lecture versus a face-to-face lecture, or an online course with a face-to-face course. Generally, such studies have not proved very valuable. From Schramm (1974) through Clark (1983) to Russell (1999), analysis of these studies have shown that when properly designed, there are no significant differences in learning between different media or technologies (face-to-face can be considered a medium of teaching). The reason for this is that the medium of teaching is only one of many different variables that influence the effectiveness of learning. In particular, the *way* a particular medium is used − more accurately, its quality − is very important. Thus a poorly prepared and delivered lecture will be less effective than a professionally produced television programme, and vice versa. Well designed teaching in any medium is likely to be effective.

However, this should not be interpreted to mean that the choice of technology does not matter. Once again, it is important to look at the conditions that lead to the successful or inappropriate use of different media in specific contexts. Research by Bates and his associates (Bates: 1995, 2005) has shown that technologies vary in terms of their access for distance learners, their costs, the kinds of learning they best support, the type of interaction they provide, their organisational requirements, their novelty value and their speed of development and maintenance. From this, Bates developed a decision-making model called **ACTIONS** (**A**ccess, **C**ost, **T**eaching function, **I**nteractivity, **O**rganisational issues, **N**ovelty and **S**peed) to help choose the most appropriate combination of media and technologies for a particular context.

Current research into new technology

Also, at the time of writing, there is considerable research and development into emerging Web-based technologies. These will be briefly mentioned.

Learning objects

A learning object can be anything from a single graphic or paragraph of text, a single slide of a physiological cell, a self-assessed test, a simulated laboratory experiment, or a short module of teaching. As well as the object being created in a digital format, a whole set of other data can be digitally "tagged" to the object, such as verbal descriptors, transaction software for charging a small fee for accessing the source, copyright holder information, links to similar objects, etc. The importance of the 'tags' against each object is that they enable Internet search engines to locate appropriate learning objects matching the descriptors used by the person searching for the object. A course designer then could build a teaching programme with many such links integrated within the overall teaching context, without having to create those objects from scratch (see Wiley, 2002, Downes, 2001, and McGreal, 2004, for good explanations and critiques of learning objects).

There is a lot of research interest in the technological aspects of learning objects, such as the determination of common standards for tagging. However, there has to date been very little application of learning objects on a large scale in distance education. There are still unresolved questions about appropriate instructional design models, about the business model (who pays and how will the cost be recovered) and institutional policies towards

the cost and maintenance of learning objects. Underlying the research into learning objects though is the need to find convenient ways to store and manage the large amount of digital materials now being created.

Student portals and e-portfolios

The more distance teaching moves online, the more important it becomes to provide services to students over the Internet. To enable students to access all the services they need in a user-friendly manner, a number of institutions have created student portals, which provide a structured screen through which students can access their online services, such as online self-enrolment, fee payment, course registration, access to online course materials, grades and instructor or tutor contact information. One such service being developed is student e-portfolios, which allow students to create Web-based collections or summaries of their work, career and interests.

Social software

This is a generic term to describe a number of online software developments that allow for the development of communities of practice, by enabling groups of people to communicate and build resources of mutual interest. The simplest forms are e-mail, bulletin boards and online discussion forums, but more recently include Weblogs (blogs) and wikis.

A Weblog allows any person with an Internet connection to publish to the Web. Weblogs are a series of "posts" on a Webpage, collections of hyperlinks and personal observations, usually organised chronologically with the newest content at the top. Wiki is the Hawaian word for "quick". Wikis use a very simple programming language to create common, shared Web sites that can be altered by anyone accessing the site. Some institutions such as the University of British Columbia are integrating these technologies into their online courses, to provide tools for students to create their own online learning materials. Outside formal education, some areas of professional practice are using blogs and wikis to share professional experience or build communities of practice.

Internet-based synchronous technologies

These are technologies that operate in "real time" over the Internet. They include Internet telephone service (VoiP), Web-conferencing (text and audio conferencing) and mobile computing, using wireless. Web-conferencing currently focuses more on audio, graphical and text communication in real time. Individuals can speak with one another and collaborate on text-based projects using data conferencing tools such as document sharing, white-boarding and typed "chat" or live audio. Bates (2005) provides a full discussion of the issues associated with Internet-based synchronous technologies.

Learning objects, student portals and e-portfolios, social software and Internet-based synchronous technologies are just examples of the rapid technological changes occuring. With the possible exception, though, of student portals and e-portfolios, applications in distance education to date are limited by the need for access to high-speed Internet services and the high cost of technology. Nevertheless, there is a good deal of experimentation going on in the USA, Canada and Europe in these new technologies, which are likely to spread as high speed Internet access becomes more widely available.

THE ORGANISATION OF RESEARCH
IN DISTANCE EDUCATION

Research into distance education has generally been the responsibility of individuals working in the distance education field, or the subject of individual Ph.D. theses. This is one reason why there is a large quantity of research, often of low quality, although there are several individuals working relatively independently who consistently produce high quality research.

High quality research that has had a measurable impact on the practice of distance education has come generally from small research groups within distance education universities or departments, such as the British Open University, the American Centre for Distance Education at Penn State University, the Open University of Hong Kong (RIDAL), Fernuniversität in Germany, the Open University of the Netherlands and the MAPLE research group in the Distance Education unit at the University of British Columbia. In most cases these small research groups are internally supported, but seek external funding for specific projects.

National research funding agencies and the European Commission have often funded research into the underlying technologies of distance education, especially information and communications technologies, but have been less keen to fund research into distance education itself. In particular, it is more difficult to get external research funding for the "softer" areas such as policy research, cost-benefit analysis, instructional design or learner support than for technology applications.

One well funded national programme was the TeleLearning Network of Centres of Excellence (TL-NCE), a Canadian national consortium of researchers formed to advance knowledge, technology and practice in networked collaborative learning. TL-NCE received CDN $13 million (just under US $10 million) from 1996 from the Canadian Federal government. Again, its focus was mainly on software development and its output was disappointing, considering the level of funding.

Similarly, the European Commission has provided extensive funding for projects on the use of information and communication technologies in education, again with little impact on overall practice. Besides an over-emphasis on technology, the European Commission projects are too big and unwieldy to produce high quality research. For instance, European Commission projects often require participants from a balance of economically advanced and less advanced countries, partnerships with industry and an even spread of money across member nations. This may be good politics in that it supports the integration of Europe, but it usually results in poor research.

Small, well-focused, professionally staffed research teams, working systematically over a five-year time period and extensively networked through collaboration with other research teams through the Internet, publications and conferences, are the most productive and sustainable models for research in this area. Without institutional and government support, though, such teams will be difficult to sustain.

CONCLUSION

Distance education presents major challenges for managers and teachers. The growing importance of lifelong learning needs new approaches and new financial models for public sector higher education institutions. Above all, distance education requires major changes to the way teaching and learning are organised.

Research can be a useful tool for change. It can support innovation, help develop effective business models and improve current practice. For this to happen, though, research into distance education needs to be integrated within the decision-making of any institution considering the use of distance education. In particular, there needs to be a greater focus on policy research, research that can help decision-makers implement and support lifelong learning.

Lastly, in recent years there has been a major shift in policy with respect to distance education, a move away from increasing access as its core rationale, to the commercialisation of education. In many countries, though, access to higher education remains a major challenge. Even in economically advanced countries, access to lifelong learning is becoming more and more important. Policy-makers should be aware that distance education can bring increased access, support innovation in teaching and be used to organise higher education more effectively. Distance education research can play a strong supportive role in such change.

POLICY CONSIDERATIONS

A number of policy recommendations can be drawn from this review of research into distance education:

- There is a large body of research-based knowledge that provides clear guidelines for the successful practice of distance education; institutional decision-makers ignore this knowledge base at their peril.

- Research has shown that student success can be markedly increased by specialised distance course design and good quality personal support through distance tutors.

- Distance education is not a good substitute for conventional higher education for students straight from high school, but distance education is a powerful mechanism for supporting lifelong learning.

- Online learning is seen as a means to better prepare learners for knowledge-based economies; in contrast, mass media distance education may be more cost-effective for agricultural- or industrial-based economies.

- Research has indicated that very careful course design and online moderation are needed for student success; however, course design in distance education is driven more by theory than research. More research on course design and online tutoring is needed, particularly in terms of developing critical and original thinking.

- Programmes that are delivered internationally require local cultural adaptation; joint and equal partnerships between institutions in different countries are one way to ensure cultural relevance.

- There is an undue emphasis on funding research into distance education technologies; more funding needs to be devoted to the "softer" areas of research in distance education, such as policy research, cost-benefit analysis, instructional design and learner support.

- Research can inform decision-making but needs small, internally-supported professional teams working in collaboration with other similar teams to produce and disseminate meaningful results.

RELEVANT INTERNET SITES

The following provide a good overview of refereed *distance education journals:*
www.irrodl.org/journalpg.html
http://cade.icaap.org/vol13.2/haughey.html

National Strategies for E-Learning in Post-Secondary Education:

http://unesdoc.unesco.org/images/0012/001262/126230e.pdf

The International Centre for Distance Learning (ICDL):
www-icdl.open.ac.uk/
ICDL is an internationally-recognised centre for research, teaching, consultancy, information and publishing activities based in the UK Open University:

Commonwealth of Learning (COL):
www.col.org/resources/startupguides/prest.htm
COL has released a series of print modules (20-40 pages each) on a variety of topics relevant to distance education research.

UNESCO's *Asia Pacific Open and Distance Learning (ODL) Knowledge Base*:
http://asiapacific-odl.oum.edu.my/
This site contains a searchable database of information relevant to ODL, including information on regional experts, best practices and policies:

Quality assurance guidelines:
www.wcet.info/projects/balancing/principles.asp
www.center.rpi.edu/PewSym/mono3.html
www.futured.com/library_cp0299p11.htm

Learning objects:
www.reusability.org/read/

Student portals:
www.nottingham.ac.uk/is/about/projects/unopod/index.phtml
This site has a good description of student portals and the process involved in development

E-portfolios:
www.estrategy.ubc.ca/news/update0401/040121-e-portfolios.html

Wikis:
www.commoncraft.com/archives/000644.html
www.e-strategy.ubc.ca/news/update0403/040324-wikis.html
A description of wikis, and examples of how UBC has been using wikis.

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CHAPTER 12

CONCLUSION

Christopher McIntosh

Looking back over the contents of this volume, we find, on the one hand, a large measure of consensus over key issues, trends and challenges in the field covered and, on the other hand, a diversity of approaches and perspectives. Clearly all the contributors are agreed on the following facts:

1. Higher education institutions throughout the world are coming under increasing pressure for reasons already described.

2. With the advance of globalisation, higher education is increasingly crossing national, sectoral, institutional and disciplinary borders, bringing many new challenges.

3. Lifelong learning is becoming increasingly essential in a world of rapid social, economic and technical change.

4. The explosion of information and communication technologies (ICTs) offers a way of meeting these challenges and holds vast possibilities for the future of distance higher education.

However, in specific contexts – national, institutional or sectoral – these facts can lead to different scenarios. And herein lies the first salient point to emerge from the book: that those engaged in making policies relating to distance higher education and the use of ICTs are constantly having to strike a balance between universalising tendencies (globalisation, student mobility, the need for international standards and norms etc.) and the demands of different nations, cultures, population groups and constituencies.

Taking the national level, it is clear from several of the contributions how much countries vary in their educational needs, their technological capacity, the attitudes of students and teachers towards modern learning technologies, and the scale on which it is practical to apply ICT-based learning. The much discussed digital divide is of course one of the major factors here. As long as this divide persists it will be necessary for policy-makers to adapt their plans to what is technically possible in a particular national context. The Finnish Virtual University, described by Marja Kylämä, is made possible by, among other things, Finland's high rate of Internet access and its computer-literate learners. A very different situation prevails, as Olivier Sagna tells us, in Africa where "the number of people possessing a home connection to the Internet is insignificant". Nevertheless, as Mr. Sagna's example from Senegal shows, some African higher education institutions are finding inventive ways of carrying out ICT-based learning despite the digital divide

by, for example, entering into partnerships with private companies to make computers available part-time to students doing courses online. The situation is again different in China, where there is both an external and internal digital divide, but where e-learning provision is developing at high speed within a well planned and co-ordinated strategy, in which the government is playing a key role. Each of these countries offers useful examples to planners elsewhere in the world, depending on the level of digital technology and provision in the country concerned.

Countries also evince wide differences in the attitudes of learners towards distance learning in general and ICT-based learning in particular. In countries such as the UK, as is shown by the case of the Open University, described in Mary Thorpe's chapter, distance higher education and ICT-based courses enjoy a high acceptance in the learning community. By contrast, in China this form of learning is at present regarded as a lower option for those studying towards a degree. As Ding Xingfu, Gu Xiaoqing, and Zhu Zhiting report, most of these have only taken the e-learning route because it is the last chance for them to receive higher education. The authors also report widespread lack of understanding, among both learners and teachers, as to the nature of e-learning and what it requires. Students often lack the necessary motivation and self-discipline, and many teachers think that they can simply put educational materials online and then wait for the students to use them.

Providers of e-learning also face a cultural diversity that can sometimes create difficulties or barriers when programmes cross frontiers. As Mary Thorpe writes:

> "When the [UK] Open University sought to open its courses to US students, it had to break down long courses into shorter modules, fitting with the US semester system, and also with the concept of regular instructional activity led by a tutor, on a weekly basis. Course materials may also include content that is too culturally specific, or even offensive in some contexts."

Linguistic diversity is a further challenge at a time when English is becoming more and more dominant as the language of cyber-space.

While countries differ widely in the ways already mentioned, they also have many common problems. One of these, albeit varying greatly in degree, is that of funding, dealt with in the chapter by Greville Rumble and Frederic Litto, which helps us to understand how cost patterns are changing with the growth of distance and ICT-based learning. Another common problem is that of standardisation. The Chinese authors, describing this challenge, write:

> "Hundreds of ICT companies are competing in the Chinese e-learning market. Consequently, many e-learning systems developed by various educational companies are experiencing difficulties in resource sharing and harmonising their systems owing to the different technology standards used. In 2001 the Chinese e-Learning Technology Standardisation Committee (CELTSC) was established, which is responsible for developing a standardised framework for e-learning technology systems."

The importance of standardisation is also highlighted by Marja Kylämä when describing the work of the Finnish Virtual University's Service Unit: "The foremost task for the Service Unit is to support university ICT co-operation. This includes defining joint university standards, harmonising practices in electronic service access and ICT, and drafting standardisation agreements together with the parties to the FVU agreement." Clearly standardisation is likely to become an increasingly complex issue,

and policy-makers will continue to be faced with the challenge of harmonising national and global standards.

A similar challenge in reconciling the global and national dimensions is manifest in the area of quality assurance (QA). Here Insung Jung's chapter on the Quality Assurance Survey of Mega Universities is illuminating. The survey reveals varying notions about the criteria for judging quality and about the methods for assuring it. "The survey results," she reports "show that the mega universities have often focused exclusively on assuring the quality of their own programmes and services delivered in their country. Increased cross-border distance education and e-learning activities present challenges for the existing QA policies." Prof. Jung, like a number of other contributors, also expresses concern about the quality implications arising from the growing number of private, for-profit e-learning providers. The emergence of these, she writes, "is pressing on the existing QA structure of distance education institutions". Speaking of the need for an international dimension to QA, Prof. Jung says: "QA in distance education is not an institutional or a national issue anymore because distance education reaches beyond local and regional boundaries and new forms of DE provision are increasing. Distance education in a globalised context requires new QA mechanisms."

Clearly, therefore, international mechanisms and instruments are of great importance for the future of quality assurance in distance higher education. One such instrument is the UNESCO Higher Education Open and Distance Learning Knowledge Base (HEODLKB), a decision-support tool for policy-makers, which is described in the chapter by Zeynep Varoglu. This project again provides an illustration of the challenge of striking a balance between universality and diversity. Through careful testing, the tool was developed so as not to be a "one size fits all" model, but rather one that takes account of the heterogeneity of specific national and institutional situations.

A related area where the international dimension is becoming increasingly important is that of the recognition of qualifications. At the global level there are initiatives such as UNESCO's Global Forum for Quality Assurance, Accreditation and Recognition of Qualifications. At the regional level initiatives include the Bologna process to establish an integrated European system of qualifications. At the bilateral level, many valuable policy lessons can be gained from the work of the Netherlands Organization for International Cooperation in Higher Education (Nuffic), described in the chapter by Jindra Divis, Astrid Scholten and Anne Marie Mak. While urging the full use of existing instruments and mechanisms to achieve transparency in the field of quality assurance and recognition of qualifications, they recommend that "quality assurance and accreditation systems … should open themselves to all providers and all forms of educational provision including e-learning studies and cross-border provision" and that prior learning should be given due recognition. As a way of helping people to present their qualifications for a job or a university programme, the portfolio system used by Nuffic is proving to be a valuable tool and a good way of striking a balance between the standardised approach and the need to capture each individual's own special qualification profile.

A further message that stands out from the contributions to this volume is that the field in question has reached a critical stage, as one can see when looking back at the earlier phases. In the nineteenth and twentieth centuries we saw the development of adult education, evening classes and correspondence courses. From the 1970s onwards came the great development of open universities and distance higher education, making use of radio and television. Then came the digital revolution, multimedia technology, the Internet and the virtual classroom, while at the same time globalisation took on a new momentum. We now stand at the confluence of these developments, poised to take further

and even greater steps, and the decisions we make will have profound consequences for the educational world of the future.

In such a situation, it is essential for decision makers to have maps and compasses to help them their chart the course forward. Here the article by Tony Bates on research provides many useful insights. Educational research, as Dr. Bates shows, is not an abstract, ivory tower pursuit, but something that provides essential knowledge for policy making. One of the things that emerges from his article (and is confirmed by other contributors) is that online education is not a miraculous panacea and that it is not enough simply to create an online learning environment. Rather, "research has indicated that that very careful course design and moderation are needed". Another important research finding is that "distance education is not a good substitute for conventional higher education for students straight from school" since these students usually lack sufficient independent learning skills. On the other hand "it is a powerful mechanism for supporting lifelong learning". Dr. Bates also points out that "there is an undue emphasis on funding research into distance education technologies; more funding needs to be devoted to the 'softer' areas of research in distance education, such as policy research, cost-benefit analysis, instructional design, and learner support". Thus, in addition to highlighting some significant research findings, his chapter also contains important pointers for the researchers themselves.

A further general point that can be drawn from the contributions as a whole is that e-learning technology is not an end in itself, but a tool for conveying educational content. The tool is more appropriate in some situations than others, and often works better when combined with other, more traditional tools. Furthermore, we should never become so mesmerised by the tool that we forget the content. Nevertheless, ICT-based learning has opened up enormous new vistas for distance higher education and has brought special benefits for the lifelong learner. The experience, insights and guidance gathered together in this volume will hopefully assist its readers in using the tool to the maximum benefit of learners.

Lifelong Learning & Distance Higher Education

As globalisation advances, education is increasingly crossing borders – national, regional, sectoral and institutional. At the same time, educational systems are having to respond to other profound changes, such as the knowledge explosion, the changing interaction between the public and private spheres, and the increasingly rapid development of information and communication technology (ICT). The present volume deals with distance higher education systems – especially those designed for lifelong learners – in the context of these changes, emphasising the need for international co-operation and for well thought-out policies in areas ranging from funding, appropriate use of ICTs and quality assurance. Aimed at planners, policy-makers and other stakeholders, the book is intended to be a practical tool for capacity-building and decision-making.