http://www.usq.edu.au/electpub/e-jist/
ISSN: 1324-0781

Published by the
Distance Education Centre
University of Southern Queensland
Australia 4350
Tel: +61 7 4631 2215
Fax: +61 7 4631 2868

Volume 3 No 1, June 1999
- - - Contents - - -

EDITORIAL

MISSION STATEMENT FOR DISTANCE EDUCATION

Just over one millennium ago, the seeds of non-contiguous education were sown in Europe and North America with a simple, what in hindsight now appears, common sense idea of teaching the art and science of short-hand by post to students who lived in places remotely from their tutor. The most important variable then was the need to overcome physical distance in an era when information and communications technology was as rural and rudimentary as could ever be imagined. In short, the only brilliant idea then to teach students who are geographically isolated from their instructor was to use the mechanism of post. This eventually led to "correspondence education" appropriately depicting the fact that instruction and feedback from students were done through postal correspondence. Thanks to Caleb Phillips and Issac Pitman, correspondence education which they began in 1728 and 1843 respectively, has metamorphosed into what is arguably the most pervasive, most talked-about, and most globally recognised form of instruction at a distance. Now variously labelled as "home study", "independent or self-directed study", "distance education", and "open and distance learning", the erstwhile concept of correspondence education has become the 'bride' of education in almost every country and every continent of the world, with developing countries using it as the foundation for national development.

Long before distance education became a household concept and preceding most of the institutions now tagging on to the fashionable bandwagon of open and distance education, some institutions who became convinced of its efficacy got together in 1938 and formed the International Council of Correspondence Education – ICCE. Almost half a decade after, in 1982 to be precise, ICCE metamorphosed into the International Council of Distance Education – ICDE. From this global body has developed a powerful body of technocrats and managers of distance learning institutions called SCOP, an acronym for the Special Conference of Presidents.

SCOP meets every year to address topical issues in the practice of distance and open education, and to interact and exchange ideas with a view to improving the quality of instruction provided every student learning at a distance.

The last ICDE-SCOP meeting which was held in Queensland Australia in September 1998 has particular significance for practitioners, researchers and those interested in the development of open and distance education. Three interesting papers given by eminent scholars and managers of distance and open learning have formed this special issue of e-JIST. Taken together, the three papers appear to have provided a mission statement for contemporary open and distance learning (ODL).

Professor Taylor's paper will definitely strike a chord with many a practitioner of ODL especially with his ideas on whether the death of distance will lead to the death of distance education. Heralding the birth of global higher education economy, Professor Taylor seems to be saying that the shift to knowledge-based economies would have a tremendous impact on future distance education especially as technology has become a very dominant factor. He has therefore suggested some strategic planning for ICDE.

Professor Broad, who became the new President of ICDE from June 30, 1999 takes the ideas of the previous paper further by dwelling on the need for quality in ODL. She argues that digital literacy should be central to distance education of the immediate future. Professor Broad calls for quality assurance of online distance education and proposes a four-point model for evaluating quality of online distance education from the perspectives of key stakeholders.

The third article by Professor Tam has taken everyone back to reality by bringing to fore the central role of ODL in developing countries. He forecasts that in a not too distance future, ODL in developing countries would become even more functional and become more pervasive as instrument for national and regional development.

If one were to reduce the three papers to a single sentence encompassing all that we do aim to achieve in ODL it would read something like this:

> "*Open and distance learning must endeavour to, and vigorously pursue quality services just as it becomes the norm rather than the exception in the educational agents of developing countries*."

This could easily become the mission statement for open and distance learning in the next millennium.

The papers are as down-to-earth as they are controversial, and as instructive as they are challenging. As a result of these and other qualities e-JIST feels that the readers should be provided with the opportunity of contributing to the debate the three papers have begun. The mission or statement or indeed both, as contained in the papers, call for their 'unpacking'. If you are challenged enough to react to all or any aspects of one or all the papers, do put "pen on to paper" and send us your comments. Others, I am sure will love to continue the debate with you.

Olugbemiro Jegede & Som Naidu

ABSTRACTS

Title The Death of Distance: The Birth of the Global Higher Education Economy

Author Professor Taylor
Director
Distance Education Centre
University of Southern Queensland
Toowoomba, Australia
email: taylorj@usq.edu.au

Abstract There appears to be a general consensus that we have entered the information age and that we are on the verge of the information economy. There is widespread acknowledgement of the view that education must be a critical driving force in the emergence of the information economy, but there is also widespread skepticism as to whether education systems will be able to overcome their traditional inertia and respond to the challenge of the knowledge-based revolution. Whereas the process of education has remained relatively unscathed for many centuries, it will not be exempt from the current forces of technological development and globalization.

Will the death of distance lead to the demise of distance education? What does all this mean for distance education institutions and ICDE? Such questions have no immediately obvious answers. Predicting the exact nature of the specific impact of technological change on education and other aspects of society has always been something of a risky business, as history demonstrates.

Title The Dynamics of Quality Assurance in On-Line Distance Education

Author Molly Corbett Broad
President
The University of North Carolina, USA
email: mbroad@ga.unc.edu

Abstract The social and economic importance of higher education has long been recognized throughout the world. However, the rapid advance of technology continues to transform the global economy into a knowledge economy, further emphasizing the essential role higher education plays in the economic viability of individuals, companies, and countries. As higher education's stature grows, we should keep in mind that its increasing importance offers both opportunities and pitfalls. To capitalize on the former while avoiding the latter, we must understand where higher education stands in relation to the rest of the world and the "knowledge revolution."

Like its global counterparts, the American higher education sector is struggling to navigate a sea of change that has stimulated broad interest in distance education. The explosion of computing and telecommunications technologies has generated particular interest in distance education enabled by information technology (IT). The dynamics of this increasing interest can be understood through:

- The forces driving the rise of distance education in the United States,
- The key role of quality assurance in supporting or inhibiting that rise, and
- The directions quality assurance in on-line learning might take as it continues to evolve.

Title Developing Countries and the Future of Distance and Open Learning in the Twenty-first Century

Author Professor Tam
President
The Open University of Hong Kong
email: swtam@ouhk.edu.hk

Abstract First, it is becoming almost impossible to mention education and development in developing countries without distance and open learning immediately coming to everyone's lips. It has become, if you like, the anthem of comprehensive national development. One sometimes wonders how the world, especially the developing world, has survived without distance and open education the way we know it today, given the tremendous role it has played in the recent past in all countries of the world. I shall return to this issue later.

Second, distance and open education is undergoing phenomenal transformation in all parts of the world. Contemporary developments have shown that distance and open education has now become a household fashion in almost every part of the globe. It is even more significant that the so-called traditional universities which have all along contributed to deriding this innovative and practical form of mass education are now emerging as the major players in its provision even though it will not be out of place to say that their major motivation may not be congruent with the one which the typical open and distance education providers have been associated with. It will not be too long before all universities in the world take their queue in search of their part of the global pie of distance and open education.

Third, the opportunity to share my thoughts with you today is also significant because I am next in line to host the ICDE-SCOP meeting in 1999. Hong Kong is looking forward to welcoming all of you and to share with you our experience in what we would like to regard as a successful experiment in using the most cost effective and broad based mode of education to catch the majority of the masses who yearn for education both for personal and national development. It is true to say that but for distance and open learning, the majority of these people would never have had the opportunity of higher education. In this sense distance education is not only a champion of education for all, it has also provided a level playing field for all who wish to participate. In the developing countries therefore, at least as far as the developing countries of Asia are concerned, we can confidently say that we have mastered how to take the distance out of education for anyone who is interested. Indeed as I will mention later, the 'distance' aspect of education has been redefined in Hong Kong.

These abstracts were prepared by David Grant, using text from the papers as presented by the authors.

ELECTRONIC JOURNAL OF INSTRUCTIONAL SCIENCE AND TECHNOLOGY (E-JIST)
VOLUME 3 NUMBER 1 JUNE 1999

THE DEATH OF DISTANCE: THE BIRTH OF THE GLOBAL HIGHER EDUCATION ECONOMY

Professor James C Taylor
University of Southern Queensland
taylorj@usq.edu.au

INTRODUCTION

'*It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way*' (Dickens, 1859). This opening sentence of "A Tale of Two Cities" is as much a valuable commentary and source of reflection on the imminent revolution in higher education as it was on the state of affairs in London and Paris in 1775. It might also reflect the perception that every generation thinks that it lives in **the** critical epoch, that it experiences **the** critical revolution. Or perhaps every generation experiences a phase of 'creative destruction" (Schumpeter, 1934) at sometime in their existence. Perhaps the world is always in a state of confusion and constant revolution.

THE BIG PICTURE

There appears to be a general consensus that we have entered the information age and that we are on the verge of the information economy. There is widespread acknowledgement of the view that education must be a critical driving force in the emergence of the information economy, but there is also widespread skepticism as to whether education systems will be able to overcome their traditional inertia and respond to the challenge of the knowledge-based revolution. Whereas the process of education has remained relatively unscathed for many centuries, it will not be exempt from the current forces of technological development and globalization.

In the 1930s, an Austrian economist named Joseph Schumpeter presented a model of development based on a continuous shift in resources from declining to expanding industries. He postulated that every 50 years or so technological revolutions would cause *'gales of creative destruction'* in which old industries would founder and be replaced by new industries. Devotees of this perspective (eg Woodall, 1997a), point to the following series of technological changes: (i) steam power that drove the industrial revolution from the 1780s to the 1840s, (ii) the railways from the 1840s to the 1890s, (iii) electric power from the 1890s to the 1930s, and (iv) the motor car and cheap oil from the 1930s to the 1980s. At present, we are faced with perhaps the most significant wave of creative destruction generated by information technology (semiconductors, computers, software and telecommunications) and the associated trend towards globalization.

The technology pundits argue that the information technology revolution could be much more significant than any previous revolution. Certainly, the pace of change is much greater. It is estimated that the Internet reached 50 million users in 5 years compared with radio that took 38 years to reach

the same number, and television which took 13 years to reach 50 million users (Hayes, 1998). Recently, Ira Magaziner, President Clinton's chief adviser on the information economy, predicted that the Internet would have one billion users by the year 2003. The impact of the Internet and the WWW is already having a major impact on the growth of international business through massive developments in e-commerce.

Perhaps more than any other sector of the economy, the banking industry is 'cashing in' on the digital information revolution. The proliferation of automatic teller machines (ATMs), along with the introduction of telephone banking, smart cards and Internet banking, has led to major restructuring. A recent report predicted that Internet commerce will rise from the current level of US$2.6 billion to US$220 billion by the year 2001 (Witts, 1998). In this growth context, the banks are still cutting costs through the closure of branches and the associated shedding of staff. In Australia, for example, in 1998 there are 355 bank branches per million people compared to 394 branches in 1994. The Finance Sector Union claims that 40, 000 jobs have been lost as a result of the re-engineering of the industry. At least such changes lead to cheaper services for customers, right? Wrong. The profits of the major banks simply continue to escalate.

The process of education seems unlikely to escape the influence of such significant global developments, especially as the cost of access to information communication technologies continues to fall, a further indicator of the rapid pace of technological change. For the past twenty years, the cost of computer processing has dropped an average of 30% per annum. One estimate suggested that computer power now costs only .001% of what it did in the early 1970s (Woodall, 1997c). By a similar reckoning, Woodall estimated that if cars had developed at the same rate as microprocessors, a typical car would cost $5.00 and do 40,000km to the gallon! She also suggested that if cars were like computers, they would crash a lot more often! In a similar vein, Bill Gates told the Senate Judiciary that 'the cost of computing has decreased 10 million fold since 1976. That's the equivalent of getting a Boeing 747 for the price of a pizza'.

This decline in costs has also been evident in the telecommunications industry. Since a fibre optic cable can now carry 1.5million conversations simultaneously, the cost (and to a lesser extent the price) of a transatlantic telephone call has plummeted dramatically. Indeed, it is widely predicted that the marginal costs of telecommunications will tend towards zero, so that the cost of carrying, though not making, a call from USQ to ICDE HQ in Oslo will be the same as a local telephone call. As Cairncross (1997) has predicted, *'The death of distance as a determinant of the cost of communications will probably be the single most important economic force shaping society in the first half of the next century' (p.28).*

Will the death of distance lead to the demise of distance education? What does all this mean for distance education institutions and ICDE? Such questions have no immediately obvious answers. Predicting the exact nature of the specific impact of technological change on education and other aspects of society has always been something of a risky business, as history demonstrates.

GETTING IT WRONG

History has demonstrated that predicting the consequences of new technology is remarkably complex. Apparently rational people in responsible positions have been proven to be spectacularly lacking in foresight. For example, as Woodall (1997a) pointed out: in 1876, the Western Union Telegraph Company was given the option of buying the patent on the Bell telephone, but declined ('Mr. Bell, don't call us, we'll call you!'). Similarly, in the 1940s the Chairman of IBM predicted that the world market for computers would be approximately five. A recent estimate of the number of computers worldwide was 150 million, a slight error of three thousand million percent! Even as recently as 1977, the CEO of Digital could not comprehend why anyone should need a personal computer.

In the field of education, predictions have been less dramatic and largely ignored, since education changes very gradually over a long period of time. In the educational context, it will be particularly

interesting to predict the impact on "the sleeping giant", especially as it is widely accepted that education must lay the foundation for the success of the global economy. To fulfill this critical role, education must embrace the new technologies, but as we all know, education never changes. It hasn't changed for hundreds of years, why should it change now?

THE EMERGING GLOBAL HIGHER EDUCATION ECONOMY

The emergence of mass higher education in many developed countries is a reasonably recent phenomenon. Although the majority of governments has accepted responsibility for the financing of universal primary and mass secondary education, tertiary education has primarily been selective with access somewhat restricted. The shift to knowledge-based economies, however, demands greater access to higher education and promotes the need for lifelong learning. At the same time, the harsh realities of financial constraints, and the current political enthusiasm for economic rationalism has meant that education, especially higher education, is increasingly being regarded as just another industry. In the context of the information age and the death of distance, more and more institutions are making courses available worldwide via the Internet. More courses available online means more competition for fee-paying students and the emergence of the global higher education economy.

It is the emergence of the global higher education economy that will force institutions to change. Much of this change will be driven by the mighty dollar in the hand of the consumer (the student). As higher education becomes increasingly market driven, institutional success will increasingly depend on students' perceptions of flexibility of access, quality of service and value for money. The institutional inertia that typifies many of the more traditional universities is likely to be an impediment to change, and could well lead to significant variations in the perceived status of higher education institutions. As one senior Australian bureaucrat put it recently, " The rooster can soon become the feather duster!"

While this trend towards regarding tertiary education as an industry is anathema to many senior academics, it is a social reality emanating from the influence of economic rationalism. Many observers seem to think that the traditional idea of the university, including the inherent value of the unfettered pursuit of knowledge for its own sake, is severely under threat from the barbaric hordes of rampant capitalists eager to make a profit. Such a view is worthy of reflection, but it represents a somewhat simplistic, polarized view of the driving force underlying the commitment of devotees to economic rationalism.

At the recent e-Commerce Summit convened by the Australian Government and Telstra in Canberra, I was forced to reassess my somewhat jaundiced perception of economic rationalists as fanatical "bean counters" interested primarily in cost cutting measures such as the opportunity to save money by rationing the distribution of paper clips. In contrast, it appears that business leaders and politicians have not only discovered Joseph Schumpeter, but have also embraced the work of another Austrian-born economist, Friedrich von Hayek, who was a relentless devotee of free market economics.

In a recent text, "The Commanding Heights: The Battle between Government and the Marketplace that is Remaking the Modern World", Yergin and Stanislaw (1998), make the point that in response to the high costs of control and the disillusionment with its intractable problems, governments throughout the world are privatising by disposing of what amounts to trillions of dollars of assets. They demonstrate that this trend is evident not only in the former Soviet Union, Eastern Europe and China, but also in Western Europe, Asia, Latin America, Africa and the United States. In essence, numerous governments are turning many of their traditional activities over to the marketplace in the belief that such an approach will be a more efficient and effective way to engender benefits to the public. The examples selected by Yergin and Stanislaw (1998) demonstrate that this is not abstract theory, but an astonishing empirical phenomenon. It is evident that the politicians and business leaders, (the "madmen in authority" as they were referred to by John Maynard Keynes), have

developed a sincere commitment to a social philosophy based on competition in the free market, which they believe will engender widespread public benefits, including higher quality and more choice at lower cost to the consumer. In the education sector, this commitment would be manifested by placing the concerns and needs of students at the centre of the educational system: not just in institutional rhetoric, but in day to day practice ….. every single day.

If one accepts that as a result of the death of distance and the growing international influence of economic rationalism that higher education will become increasingly market driven, what are the implications for professional organizations such as ICDE? In the wake of the emergence of the global higher education economy, will ICDE have an increasingly significant or gradually declining role?

GETTING IT RIGHT

In the 21st century, ICDE must attempt to accommodate to the demands of the consumer driven revolution. It must provide value for money to its members. The challenge to ICDE is to provide strategic benefits to its members so that they might better protect the interests of their institution in the emerging, increasingly competitive international environment.

Established as ICCE (the International Council for Correspondence Education) in 1938, the organization provided a useful forum for a relatively small group of specialists. In response to changing technology, ICCE became ICDE in 1982 at the World Conference in Vancouver. Now, ICDE must respond to the emerging "destructive creation" of the new economic paradigm of the information age. With the death of distance and the birth of the global higher education economy, distance education is potentially everybody's business. Indeed, the death of distance will likely create the ideal opportunity for distance education providers to play a critical role in the emerging information technology revolution. The challenge to the members of SCOP is to articulate the strategic directions of ICDE to enable member institutions to thrive and prosper as they strive to come to terms with the threats and opportunities presented by the rapid pace of technological change.

STRATEGIC PLANNING

In theory, SCOP is the operational structure for developing ICDE initiatives and activities of an institutional and strategic nature to enable ICDE to achieve its mission, which is to:

- Promote open and distance education, along with associated goals for flexible learning, training, continuing education, community education and adult education, throughout the world;
- Be instrumental in developing networks and systems for educational purposes at national, regional and global levels;
- Facilitate the emergence of new educational paradigms which recognize the importance of open and distance education and their allied principles and practices;
- Contribute to the development of new methodologies and technologies applied to education and training in order to improve lifelong learning;
- Ensure ICDE is an initiating base for the development of international strategies and policies related to open and distance education;
- Foster international collaboration in education and training across national borders;
- Create an appropriate environment for collaboration and the planning of new educational initiatives, in co-operation with cultural industries and services;

- Provide a forum where individuals, corporations, institutions, governments and associations involved in open and distance education can engage in professional enhancement and interaction.

Certain questions need to be addressed. Is the ICDE mission still appropriate for the emerging global information economy? How can ICDE provide improved benefits and services to its members both individual and institutional? What does ICDE have to do to enhance its influence and impact in the third millennium? How can ICDE capitalize on its global membership?

ICDE has achieved a great deal over the last 60 years, but it needs to change if it is to meet the challenge of the rapidly emerging global information economy. From a personal perspective, ICDE would appear to have many strengths and more opportunities than threats, but it cannot afford to be complacent. To begin with, I believe that we need to make more use of the ICDE homepage, and in particular, the ICDE WWW NET. If ICDE is concerned with "facilitating the emergence of new paradigms", it needs to be seen to be using the technologies as part of its core business.

ICDE may need to become more commercial, and to be run like a business to survive in the third millennium. It could possibly provide, or become a broker, for a range of commercial services as follows:

- Accreditation for transnational education awards;
- Quality accreditation services;
- Training services for distance education professionals;
- Courseware development services; and
- Consulting services.

Given the history and current structure of the organization, such proposed commercialization may seem challenging, but ICDE may not survive and prosper without developing a capacity to change with the times. For example, a name change may be appropriate within the near future. The aforementioned change from ICCE to ICDE reflected changes in technology and expanded the potential membership base, thereby adding momentum to the organization. The current emergence of the information economy could well signal the need to change from ICDE to ICGE, the International Council for Global Education. This phase of development is likely to last for some time, until the need to become the ICIE, the International Council for Intergalactic Education!

Given the diversity of membership, these suggestions for change are likely to meet with a mixed response. However, there could well be a consensus that like other organizations, ICDE should endeavour to respond to the present 'gales of creative destruction'. As we approach the third millennium, it is at least the time for reflection. It could well be the time for radical action.

FINAL COMMENT

Finally, with apologies to Charles Dickens:

> *"Will the new millennium be the best of times, or the worst of times for ICDE? Will we have everything before us, or will we have nothing before us? Will we be going direct to Heaven, or will we be going direct the other way?"*

REFERENCES

Cairncross, F (1997). "The death of distance". In O. Morton, (Ed.), *Exploiting the Information Age*. London: Profile Books.

Hayes, H (1998). "Models for scholarly publishing in the 20th century". *Online-Ed*, 22 May.

Schumpeter, JA (1934). *Theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle*. USA: Harvard University Press.

Witts, P (1998). "Banks rule, okay?" *The Weekend Australian,* 23-24 May.

Woodall, P (1997a). "Making waves". In O. Morton, (Ed.), *Exploiting the Information Age*. London: Profile Books.

Woodall, P (1997b). "Paradox lost". In O. Morton, (Ed.), *Exploiting the Information Age*. London: Profile Books.

Woodall, P (1997c). "The end of everything". In O. Morton, (Ed.), *Exploiting the Information Age*. London: Profile Books.

Yergin, D and Stanislaw, J (1998). *The Commanding Heights: The Battle Between Government and the Marketplace that is Remaking the Modern World*. UK: Simon & Schuster.

Hayek, FA (1994). *The Road to Serfdom (50th Anniversary Edition)*. USA: University of Chicago Press.

ELECTRONIC JOURNAL OF INSTRUCTIONAL SCIENCE AND TECHNOLOGY (E-JIST)
VOLUME 3 NUMBER 1 JUNE 1999

THE DYNAMICS OF QUALITY ASSURANCE IN ON-LINE DISTANCE EDUCATION[1]

Molly Corbett Broad, President
The University of North Carolina
mbroad@ga.unc.edu

The social and economic importance of higher education has long been recognized throughout the world. However, the rapid advance of technology continues to transform the global economy into a knowledge economy, further emphasizing the essential role higher education plays in the economic viability of individuals, companies, and countries. As higher education's stature grows, we should keep in mind that its increasing importance offers both opportunities and pitfalls. To capitalize on the former while avoiding the latter, we must understand where higher education stands in relation to the rest of the world and the "knowledge revolution."

Like its global counterparts, the American higher education sector is struggling to navigate a sea of change that has stimulated broad interest in distance education. The explosion of computing and telecommunications technologies has generated particular interest in distance education enabled by information technology (IT). The dynamics of this increasing interest can be understood through:

- The forces driving the rise of distance education in the United States,
- The key role of quality assurance in supporting or inhibiting that rise, and
- The directions quality assurance in on-line learning might take as it continues to evolve.

What's Driving the Rise of Distance Education in the U.S.?

Dramatic projections for enrollment growth:

Public university systems throughout the United States are projecting dramatic increases in enrollments over the next decade without commensurate increases in public funding. Children of the post-World War II "baby boom" generation have formed an "echo boom" of elementary and secondary enrollments that will translate into a major increase in higher education enrollments over the next ten years. Nationwide, the annual number of high school graduates is expected to increase from approximately 2.45 million in 1997-98 to 2.87 million by 2007-08, roughly a 17% increase over ten years. The 2007-08 figure of almost 2.9 million high school graduates will represent an all-time high, surpassing the previous peak reached during the late 1970's. After peaking in 2007-08, the number of annual high school graduates is projected to decline only slightly over the rest of the decade; by 2011-12, projections indicate that the number of annual high school graduates will be less than 3% lower than the previous historic high of

[1] This article is based on a presentation made to the Standing Conference of Presidents (SCOP) of the International Council on Open and Distance Education (ICDE) on September 14, 1998, in Queensland, Australia. The slides from that presentation are available through the ICDE website at http://www.icde.org/AboutICDE/SCOP/SCOP.html.

1978-79.[1] The impact on American colleges and universities will be profound, with higher education enrollment growth at levels not seen since the "tidal wave" of the 1960's and 1970's. For example, at the University of North Carolina, we are expecting annual headcount enrollments to grow by almost 30% between 1997 and 2007. UNC would have to add roughly four or five "average-size" campuses (in a system currently encompassing sixteen campuses) to accommodate the expected growth in traditional ways. Given the other demands on state funds, such as needs in elementary and secondary education, this isn't likely to happen.

The growing demand for higher education from nontraditional sources:

Meanwhile, the growing importance of postsecondary education to one's economic prospects, driven in no small measure by the information technology revolution sweeping America and the world, is spurring increased enrollment demand from adults already in the workforce. In a national survey conducted by Washington State University's Social and Economic Sciences Research Center (SESRC), large percentages of Americans surveyed, regardless of income, had recently pursued additional education, with over 80% of respondents indicating that such education was "probably " or "definitely" important for career success.[2]

Have you had any work-related training or education in the last three years? (Responses by Income Level)	
Income	*Percent "Yes"*
<$20,000	72%
$20-39,999	83%
$40-59,999	85%
$60,000±	93%

When segmented by age, comparable percentages of those surveyed, even respondents at or above retirement age, had recently participated in work-related training or education; significant percentages had also been encouraged by their employers to get more education, with even one-quarter of respondents at or above retirement age having received such encouragement.[3]

Have you had any work-related training or education in the last three years? (Responses by Age)	
Age	*Percent "Yes"*
18-29	90%
30-39	80%
40-49	82%
50-64	76%
65±	46%

Similarly, regardless of current level of education, large percentages of those surveyed had recently pursued work-related training or education, with roughly half of those possessing bachelor's or master's degrees having been encouraged by their employers to seek additional education.[4]

Have you had any work-related training or education in the last three years? (Responses by Education Level)	
Education Level	*Percent "Yes"*
<High School	58%
High School/General Equivalency Degree	73%

[1] WICHE and The College Board, *Knocking at the College Door*, February 1998, p .9.
[2] Don A. Dillman, James A. Christenson, Priscilla Salant, and Paul D. Warner, "What the Public Wants from Higher Education: Workforce Implications from a 1995 National Survey," Social & Economic Sciences Research Center, Washington State University, November 1995, pp. 13-14.
[3] *Ibid*, pp. 14 & 17.
[4] *Ibid*, pp. 15 & 17.

Some College	87%
Bachelor's Degree±	94%
Master's Degree±	98%

These figures do not constitute firm projections of the increase in higher education demand from persons already in the workforce, but they do provide us with some feel for the potential size and scope of that demand. Therefore, they give us some indication of its potential impact on American higher education.

These "non-traditional students" are generally older and already dedicated to family and career. Therefore, they are most in need of educational opportunities that are highly flexible in terms of time and place of instruction. Ideally, they most likely would prefer to participate in courses and other educational opportunities from their homes, businesses, or nearby sites in their local communities. They would definitely prefer to pursue their coursework on their own schedules, as opposed to having to try and fit their lives around an institution's schedule. However, such students also share some common needs with traditional on-campus students. They require similar academic support services, such as access to the learning resources and research support generally provided by campus libraries. They, too, need academic advising, interaction with faculty mentors, and access to career services, financial aid counseling, and the registrar's and bursar's offices. However, they need flexible, convenient access to these services on par with the flexibility and convenience they demand in the delivery of academic programs. As a result, many higher education and governmental leaders in the United States are now looking to distance education, including the attendant support services, as a major option for meeting these challenges.

The information technology revolution and the need for digital literacy:

The pace of technological change and its impact on the American and global economies are increasing exponentially:

- Between 1997 and 2002, the number of computers worldwide is estimated to increase from 200 million to 500 million.
- Data traffic is projected to exceed voice traffic on global phone systems by the year 2000.[5] (And by some estimates it already has!)
- It has been estimated that, in 1996, 65% of all workers in the United States used information technology in their jobs
- By the year 2000, that figure is expected to be 95%.[6]

Demand for additional higher education by adults already in the workforce is being driven in large part by the impact of the information technology revolution on the workplace and the economy as a whole. The dramatic impact of information technology's proliferation throughout the economy has driven more and more workers to seek additional education in order stay current with the technological demands of their existing careers, or to prepare them for seeking new ones. For example, MIT's Nicholas Negroponte has stated that, in his opinion, universal digital literacy has largely been achieved among children age 14 and under in the United States. He believes that senior citizens, who are more likely to have had the time to explore new technologies such as the Web, constitute the next most digitally literate group. However, he defines the large group in between -- essentially those running the country -- as the "digitally homeless." These are the working professionals who are increasingly required to establish and maintain information technology knowledge and skills in order to perform successfully in their daily work activities, but whose work and family commitments prevent them from accessing traditional learning opportunities.[7]

[5] Kevin Kelly, "New Rules for the New Economy," *Wired*, Sept. 1997, pp. 2-3 (Electronic Editorial Reprint Version).
[6] Twigg & Oblinger, The Virtual University: A Report from a Joint Educom/IBM Roundtable, Educom, 1997, p. 3.
[7] Nicholas Negroponte, *The Changing Technological Environment*, speech to the 18th ICDE World Conference, The Pennsylvania State University, University Park, PA, June 2, 1997.

Negroponte's supposition implies that American universities will have to serve two distinct populations:

1. a digitally literate traditional student population expecting educational experiences that will utilize their well-developed information technology capabilities, and
2. a nontraditional population needing to acquire information technology knowledge and skills to sustain and advance their careers.

Meeting the needs of both populations will require effectively incorporating information technology into the teaching and learning process; in the latter case, information technology may become the primary mechanism for teaching and learning at a distance, at least in the U.S. Continuing rapid technological advances are providing new ways of delivering higher education (e.g., web-based asynchronous delivery with e-mail and chat rooms; web-based synchronous delivery may soon be possible as the availability of bandwidth grows), which may offer opportunities for providing the flexible access to education and services that nontraditional students require. Meanwhile, for the digitally literate next generation of on-campus students, we must be prepared to teach these students with more than a blackboard and a piece of chalk; our classrooms and learning environments must be technologically enabled to accommodate the multiple learning styles and multimedia learning paths to which they will be accustomed.

The expanding marketplace of higher education/ distance education providers:

As technology continues to change when, where, and how students can learn, it is also changing who can provide those learning opportunities. American higher education must change because the dynamics of our industry have changed. An increasing number of for-profit universities (e.g., University of Phoenix, DeVry Institutes, ITT Technical Institutes) are targeting professional and technological education at both the undergraduate and graduate level as their core markets. Moreover, they are moving aggressively to service those markets with student-centered approaches most traditional institutions have yet to meet. Some traditional higher education providers have responded by establishing specialized for-profit or non-profit subsidiaries focused on distance education (e.g., University of Wisconsin's Learning Innovation Center, University of Nebraska's for-profit distance education arm). In some university systems, states, and regions, these new entities have taken the form of "virtual universities," institutions whose sole focus is the delivery of on-line distance education (e.g., Jones International University).

Meanwhile, traditional textbook publishers and software developers are examining how best to enter the fray as producers of technologically supported courses, full courseware products, or complete digital learning environments that enable the distance education activities of current and emerging providers. (e.g., Microsoft, Lotus, Simon & Schuster). Industries and professional associations are also beginning to sponsor programs and comprehensive entities to meet the specific continuing education needs of their workforces or professions (e.g., Michigan Virtual Automotive College, an institution created by the major U.S. auto makers, The University of Michigan, Michigan State University, and the State of Michigan to provide a full range of automotive industry education). Finally, as this latter example demonstrates, partnerships involving any or all of the above hold the potential for adding still further diversity to the U.S. distance and continuing education markets.[8]

The information technology revolution has made this new competition possible by lowering the barriers to entry posed by the capital requirements of a traditional campus, and by enabling new learning environments and forms of service delivery which provide additional bases for competition. It is also allowing a national and international perspective on higher education competition to take hold in the United States, since courses could conceivably be delivered or received "anytime, anywhere." Institutions, their stakeholders and students, and other potential providers are beginning to realize that higher education, both in the U.S. and abroad, stands on the cusp of becoming a truly global *industry* with truly global players. However, we are just beginning to grapple with the implications of that transformation for ensuring the quality of education received in new forms via the new technologies.

[8] Ted Marchese, "Not-So-Distant Competitors," *AAHE Bulletin*, May 1998, pp. 3-7.

Quality Assurance in Distance Education

As distance education proliferates in response to increases in demand and the number and variety of suppliers, American higher education is struggling with the question of how to ensure that students learning through these means receive the same educational quality as traditional on-campus students, if not better. In considering this question, two factors have come to be viewed as central to assuring quality in on-line distance education (i.e., education delivered via the Internet/World-Wide Web):

- the availability of adequate technological, organizational, and market infrastructures to support effective on-line teaching and learning; and
- the development of effective mechanisms for evaluating the quality of on-line distance education from a variety of perspectives (e.g., students, colleges and universities, and external stakeholders).

Ensuring the Basic Foundations - Technological Infrastructure:

Multiple technologies are already utilized successfully around the world to deliver instruction to students at a distance, including:

- Traditional correspondence/text-based courses
- Broadcast/satellite/cable television
- Videotapes/CD-ROM's
- Internet-based/Web-based instruction.

However, in the United States, much of the recent discussion surrounding distance education has focused on the special characteristics and issues associated with the newest medium – Internet-based/Web-based instruction - especially since that's the model driving so much change in American higher education, and perhaps ultimately throughout the world. In this regard, the first issue to address regarding quality assurance in on-line distance education concerns the network infrastructure necessary for delivery of effective on-line learning opportunities.

For many countries, the lack of network and telecommunications infrastructure across their territories is a major impediment to Web-based instruction. In the United States and other countries where the Internet/World-Wide Web is becoming ubiquitous, the lack of capacity or bandwidth within their computer/telecommunications networks is a major limitation. Truly interactive, multimedia courseware and digital learning environments require a greater level of network capacity and quality-of-service guarantees than the current public Internet can provide. However, the United States should witness dramatic increases in bandwidth availability over the next few years as the lessons learned from Internet2, vBNS, and Abilene make their way to the public Internet, and as public and private organizations work to upgrade the physical infrastructure underpinning the Internet. For countries without a widely developed network infrastructure, rapid deployment of digital satellite systems, such as Teledesic's proposed global satellite-based network, may provide true "anyplace, anytime" networking without expensive investments in an extensive physical infrastructure.

Institutional needs for network and desktop hardware, software, training, and support are also major factors in the potential growth of web-based distance education. These resources are critical to the development of digital literacy across the university community, the integration of information technology into the teaching and learning process, the creation of viable on-line instructional materials, and the formation of a true on-line academic community for distance learning students. The availability of computer technology and network access among the general population, or the degree to which institutions involved in distance education can make those affordably available to their students, also constitutes a fundamental aspect of conducting distance education via the Web.

Thus, the successful delivery of large-scale, effective, and reliable on-line distance education depends heavily on the continued rapid development of overall national and global information technology infrastructures, which include:

- digitally literate and well-supported users,
- effective desktop computing capabilities (both hardware and software),
- further growth in affordable broadband network connections from homes and businesses to the public Internet, and
- the continued evolution of the Internet into a high-bandwidth global network.

Even give the current limitations of the global information technology infrastructure, many courses and programs are already being successfully offered and completed on-line. These learning opportunities offer us a glimpse of what may be possible on a much broader scale in the near future. They also provide us with test cases for discovering and addressing the unique quality assurance issues related to on-line distance education. However, for us to realize the full promise of Internet-base/Web-based learning, the comprehensive development of advanced personal, institutional, and public information technology infrastructures must continue.

As computers and computer networks become ubiquitous, thereby leading more and more people to pursue additional college-level education in order to stay current with the demands of the workplace, they are also changing the ways in which learning at a distance can take place. The promise of "anytime, anywhere" learning supported by both synchronous and asynchronous technologies has further heightened the attractiveness of distance education to potential American audiences. However, these technologies have also altered the higher education market by allowing traditional institutions to move beyond regional service areas and compete in each other's markets; they have also opened the doors to competition from a variety of new sources, such as for-profit and corporate universities. As on-line distance education continues to proliferate in response to increases in demand and the number and variety of suppliers, American higher education is grappling with how to ensure that students learning through these means receive the same or better educational quality as on-campus students.

Ensuring the Basic Foundations - Market Infrastructure:

Another critical factor that will determine the potential of Internet-based distance education is the course of the developing market for educational software (i.e., courseware) and on-line instructional materials. The U.S. is taking a market-driven approach to developing on-line instructional materials; one example is the IMS process. The IMS consortium was established by the U.S. higher education technology association Educom in February, 1997. (Educom merged with the other major American higher education technology association to form EDUCAUSE in July, 1998.) Through this consortium, many higher education organizations across the U.S. and around the world are working in collaboration with computer hardware and software companies, publishers, and other content developers to create the market infrastructure necessary for stimulating the rapid development of high-quality on-line instructional materials.

A key outcome of the IMS process has been the development of open standards for the development of courseware and digital learning environments. These standards are an essential element of the market infrastructure for digital learning materials because they provide:

- Mechanisms that ensure courseware developers will receive compensation for their work,
- Guaranteed interoperability of digital learning materials across hardware/software platforms, and
- Assurance that products developed by one company or individual can be integrated with those of another whose products meet IMS standards.

Clearly, the continued growth and long-range future of on-line distance education depends on increasing the availability and effectiveness of digital teaching and learning materials. By creating an environment in which the development of high-quality, marketable materials can take place, the IMS project promises to jump-start the large-scale production of courseware and digital learning systems, thus providing another crucial foundation element for on-line distance education.

However, relying on market forces to encourage creativity and volume in the development of courseware heightens the importance of intellectual property issues relative to this new market. In the recent past, higher education institutions ceded responsibility for publishing and disseminating research findings to commercial publishers. Those publishers are now charging university libraries exorbitant subscription prices essentially to buy back access to the research developed by their faculties. For example, the cost of scholarly journals increased 148% between 1986 and 1996, or roughly three times the rate of inflation; the price of on-line databases grew even more rapidly, in one case by over 350% in one year.[9] Colleges and universities who are going to encourage and support their faculty in the development of courseware and other on-line instructional materials must avoid replicating this situation in the emerging market for such materials. Identifying the appropriate model for faculty-university relations in this area is critical not only to faculty and institutions engaged in on-line distance education, but also to the higher education enterprise as a whole. The model developed for faculty-university relations in this area may ultimately be similar to that used in scientific research, in which institutions provide essential facilities and technical support for faculty efforts and share in the benefits generated.

Evaluating Quality from the Perspectives of Key Stakeholders - Outcomes-Based Assessment:

Ensuring the quality of distance education, particularly on-line distance education, includes evaluating the level of learning that students achieve via technology-mediated instruction. It also involves measuring the overall quality of the distance education experience from both the student and institutional perspectives. In fact, these issues are intimately related to two emerging trends in American higher education – a) an increased emphasis on learning outcomes, and b) a renewed emphasis on student needs and the teaching and learning process in institutional missions. Moving to an evaluation of student learning on the basis of demonstrated outcomes assumes that colleges and universities can identify and agree on a common set of measurable course/program outcomes. The process of reaching such agreement will require a broad dialogue within the academy on a number of related questions. For example, what do we mean by the term "outcomes-based assessment?" Does it have different meanings in different contexts? What evaluative systems have to be developed to measure learning outcomes however defined? How do we approach outcomes-based assessment as community so that standards, measures, and results are accepted 1) from institution to institution, 2) across university systems and accreditation regions, and 3) between institutions and regulatory bodies of different nations.

Evaluating Quality from the Perspectives of Key Stakeholders - Interaction in the Teaching and Learning Process:

An oft-quoted statement is that most of the learning process really takes place outside the classroom through faculty-student and student-student interaction, as well as through direct efforts by faculty to mentor students. Many view the success a university achieves in fulfilling its role as a learning community to be one of the key determinants of its educational quality. This perspective poses some critical questions for distance education in general, and on-line education in particular, the answers to which may play an important role in the real and perceived quality of on-line distance education. For example, what features of the learning community can be replicated at a distance? Which differences between campus-based and on-line learning communities matter, either positively or negatively? What level of interaction - either between students or between faculty and students - is desirable, and what level is essential? How might these levels of interaction differ by discipline, and what are the subsequent implications for on-line distance education?

Evaluating Quality from the Perspectives of Key Stakeholders - Academic and Student Services:

In addition to preserving a necessary level of interaction, institutions and programs seeking to deliver Internet-based distance learning opportunities will have to ensure that their on-line students have access to an appropriate level of academic and student support services. Students who are able to take courses "anyplace, anytime" will expect to be able to access academic and other support services in a similar way. Yet the services they receive must be of comparable scope and quality to those available to students on the institution's physical campus. Some key questions regarding this issue include: What is the appropriate

[9] *Policy Perspectives*, Pew Higher Education Roundtable, ARL, and AAU, March 1998, pp. 1-2.

set of services required by on-line learners and how does it differ from the set needed by more traditional on-campus students? What are the implications of this demand for comprehensive, high-quality Internet-based services for institutions' existing library, academic counseling, career counseling, financial aid, registration, and other services operations? How do we ensure that on-line students are receiving the level and quality of services necessary to meet their needs? What feedback mechanisms must be incorporated into the delivery systems to ensure a focus on students' needs is maintained? What other important issues will have to be addressed to ensure a high-quality learning experience for on-line distance education students?

Evaluating Quality from the Perspectives of Key Stakeholders - External Oversight:

While distance education is well-established in many countries and enjoys widespread acceptance as a high-quality teaching-and-learning option, it has not yet acquired the imprimatur of quality in the minds of many in the United States, including many in academia. However, the flexibility that distance education offers is increasingly in demand in the U.S., both by traditional and nontraditional students who want and need its convenience. State governments, which are the principle sponsors of public higher education in the U.S., are also interested in distance education as a means of providing greater access to higher education, particularly in underserved areas, at what they hope will be a lower cost. Thus, the demand for a "guarantee of quality" for courses and programs offered at a distance, and especially those delivered via the Internet, is steadily growing. All of the stakeholders in American higher education, including the institutions themselves, wish to ensure that courses and programs offered at a distance meet or exceed the level of quality for on-campus instruction. Meeting the overall need for an assurance of quality in distance education presents a myriad of issues that impact the very foundations of American higher education.

In the United States, quality assurance in higher education has largely been the province of voluntary accreditation agencies. Generally, colleges and universities in a particular region have banded together to establish and maintain common standards and mechanisms for:

- internal institutional reviews of programmatic and institutional quality, and
- external reviews of an institution's programmatic and overall quality by representatives from member institutions of the accrediting body.

The federal government has relied on accreditation in determining institutional eligibility for participation in federal student financial aid programs as well as competitive higher education grant programs. State governments, however, as the primary sponsors of public higher education and the main actors in education policy in general, have also established and maintained state higher education coordinating boards or commissions with varying levels of responsibility for overseeing both public and private colleges and universities within their states. Generally, these boards or commissions have focused on whether institutions meet state standards for financial and operational viability and, in the case of public institutions, whether their program offerings and interinstitutional relationships meet state needs and goals.

The rise of distance education in the United States, and particularly on-line distance education, has blurred the lines between states and regions regarding who is capable of delivering instruction when and where, and with what level of physical presence in a state or region. This has presented a major challenge to traditional regional accrediting bodies as well as state regulators. A whole host of higher education institutions, both traditional and non-traditional, are now able to offer instruction in a jurisdiction without maintaining a physical or legal presence there. Thus, the anticipated rise of on-line distance education has raised doubts about the ability of our existing quality assurance system to function effectively. Can regional accreditation and state regulatory agencies adapt to the quality assurance needs of institutions operating nationally or even globally? Will a national approach to accreditation and/or government regulation of higher education be necessary? What would be the positive or negative impacts of such an approach? These questions, and a host of others, remain to be answered.

What directions might quality assurance in distance education, including on-line education, take in the United States?

The questions and challenges outlined above are leading many to wonder what the future course of quality assurance in American higher education, and particularly on-line distance education, might be. Solid answers are not yet available. However, a few general trends are becoming apparent which may indicate the emerging characteristics of the "new" system. Among them are:

- Greater collaboration in policy development across accrediting regions and states;
- Continued expansion of the role of media organizations in meeting consumer demand for information regarding quality and price in the higher education marketplace;
- Increased emphasis on internal quality review.

Greater collaboration in policy development across accrediting regions and states:

Distance education's reach across jurisdictions has led higher education institutions, associations, accrediting bodies, and state commissions to work together to identify common standards and principles for the development of distance education within their areas. A major example of this has been the *Principles of Good Practice for Electronically Offered Degree and Certificate Programs* developed by the Western Cooperative for Educational Telecommunications, an arm of the Western Interstate Commission for Higher Education (WICHE). WICHE is a regional organization spanning 15 western states, including the west coast of the U.S. Many WICHE states have been at the forefront of distance education in the U.S. Thus, ensuring quality in on-line distance education has been a particularly critical issue for the group. Developed collaboratively by state and higher education representatives, the *Principles* serve as a policy framework to help institutional and state leaders guide the growth of on-line distance education within their jurisdictions. The *Principles* have attained widespread acceptance across American higher education. Other regional groups, such as the Southern Regional Education Board,, have adapted the policy framework to their circumstances. This has provided a common basis for approaching and discussing on-line distance education issues across state and regional boundaries.
(*Principles of Good Practice for Electronically Offered Degree and Certificate Programs* is available on-line at the following address: http://wiche.edu/telecom/projects/balancing/principles.htm .)

The media's role in driving an increased emphasis on internal quality review :

As American higher education (including distance education) becomes a more competitive industry, an increased consumer-driven demand for market information is developing, as demonstrated by the following:

- *U.S. News & World Report's* highly influential and widely circulated annual rankings of U.S. colleges, universities, and now graduate/professional programs;
- *Time Magazine* and *The Princeton Review's* joint issue regarding "how to select the college that's right for you";
- *The Peterson's Guide to Colleges and Universities* increasing production of specific institutional and programmatic guides in response to the growing segmentation of the higher education market.

In response, higher education institutions are feeling increased responsibility for managing and verifying the quality of their offerings to the student-consumer and other potential direct or indirect "purchasers" of their services (e.g., government, business, etc.). This is particularly true as they expand their operations in the distance education arena. If this more consumer-oriented model continues to emerge, and all indications are that it probably will, colleges and universities may find themselves in a position similar to that of other service industries in terms of having to develop and disseminate information regarding the quality of their "services" on a continuous basis. Moreover, this information will have to be made available to potential "clients" in readily accessible forms. In this regard, student satisfaction surveys are already rapidly becoming key instruments in assessing institutional quality to which the lay public responds. Similarly, employer satisfaction surveys are also viewed as potentially valuable information sources regarding institutional effectiveness by both government officials and the constituencies they represent.

A critical question arises, however, regarding the degree to which market-driven indicators or standards for quality assurance will meet the demands of governmental entities for public accountability. Moreover, to what extent can or should such indicators inform discussions of quality among higher education institutions and regulatory bodies? What should higher education institutions be doing separately and collectively to provide effective "consumer" information regarding quality? Insofar as state governments (and through financial aid, the federal government) continue to be the primary sponsors of American higher education, their demands for quality and adequate service delivery within their jurisdictions will play a major role in determining the shape of quality assessment. Higher education institutions, especially public ones, will have to work constantly to strike a balance between the entrepreneurial imperatives of the developing market for on-line distance education and the accountability pressures arising from their public sector roles in education, research, and service.

DEVELOPING COUNTRIES AND THE FUTURE OF DISTANCE AND OPEN LEARNING IN THE TWENTY-FIRST CENTURY[1]

Professor S W Tam, President
The Open University of Hong Kong
swtam@ouhk.edu.hk

Introduction

Let me begin this presentation by expressing my sincere gratitude to our Chief host, Professor Peter Swannell, for the invitation to address this august meeting. Although I was neither too sure of what he specifically wanted me to speak about with regard to distance and open learning in developing countries nor in fact initially prepared to accept the invitation due to a number of reasons, I nevertheless felt that this opportune moment should not be left to pass. There is some indication that the greatest amount of activities in distance and open learning right now and most probably in the future occur in developing countries. This forum and this meeting should therefore have an opportunity to hear the voice (of developing countries) which has for too long lurked in the background but should be in the forefront as the world speaks for and about distance and open learning in contemporary times. The opportunity given me to address you is therefore extremely significant in more ways than one. I would like to mention just three of them.

First, it is becoming almost impossible to mention education and development in developing countries without distance and open learning immediately coming to everyone's lips. It has become, if you like, the anthem of comprehensive national development. One sometimes wonders how the world, especially the developing world, has survived without distance and open education the way we know it today, given the tremendous role it has played in the recent past in all countries of the world. I shall return to this issue later. Second, distance and open education is undergoing phenomenal transformation in all parts of the world. Contemporary developments have shown that distance and open education has now become a household fashion in almost every part of the globe. It is even more significant that the so-called traditional universities which have all along contributed to deriding this innovative and practical form of mass education are now emerging as the major players in its provision even though it will not be out of place to say that their major motivation may not be congruent with the one which the typical open and distance education providers have been associated with. It will not be too long before all universities in the world take their queue in search of their part of the global pie of distance and open education. Third, the opportunity to share my thoughts with you today is also significant because I am next in line to host the ICDE-SCOP meeting in 1999. Hong Kong is looking forward to welcoming all of you and to share with you our experience in what we would like to regard as a successful experiment in using the most cost effective and broad based mode of education to catch the majority of the masses who yearn for education both for personal and national development. It is true to say that but for distance and open learning, the majority of these people would never have had the opportunity of higher education. In this sense distance education is not only a champion of education for all, it has also provided a level playing field for all who wish to participate. In the developing countries therefore, at least as far as the developing countries of Asia are concerned, we can confidently say that we have mastered how to take the distance out of education for anyone who is interested. Indeed as I will mention later, the 'distance' aspect of education has been redefined in Hong Kong.

[1] An invited presentation at the ICDE-SCOP meeting held at the Gold Coast, Australia, September 1998

Let me hasten to dispel any doubt which may have arisen in your mind regarding the focus of my address. I wish to state that I can not by any stretch of imagination pretend to be speaking for all developing countries. Given the extensive scale of diversities within the developing part of the world, it is unthinkable to expect one single address to capture, albeit in a kaleidoscopic manner, the goings-on in every developing country. However while I will use Hong Kong as my point of reference I should mention that many developing countries, especially within Asia, share our characteristics, concerns, successes, hope and aspirations for the future. In this respect you may be right if you extend the edges of some of my statements as blanket coverage of the state of distance and open learning in the developing countries of Asia.

Taking the distance out of education

Distance and open learning as a form of human resource development has come a long way. It has transcended various chronological landmarks and transformation in nomenclature. When in 1728, Caleb Philipps of Boston , USA decided to teach Short Hand by post, or in 1833 when the study of composition was offered by post in Sweden, or in 1843 when Isaac Pitman began teaching Short Hand through the post in the United Kingdom (see Battenberg, 1971; Holmberg, 1989) little did they or anyone of their time realise the enormous revolution this method of teaching and learning will have on the world.

Known differently and variously as 'correspondence study', 'home study', 'off-campus study', 'independent study', 'distance study', 'telematic teaching', 'extra-mural system', what we now call distance and open learning has meant the same for everyone in the world. This is the provision of education by a mode other than the conventional face to face method but whose goals are similar to, and just as noble and practical, as those of on-campus full-time, face to face education.

The history and evolution of distance education has been marked by three main issues (Gough, 1980). The first is access: to allow students who would otherwise be denied educational opportunities to gain access to courses. The second is equivalence and integrity: students taught at a distance should receive an equivalent education and an equivalent qualification with the same integrity as those earned through the conventional mode. The third is excellence: quest for excellence in quality of learning materials, teaching, support services, academic and administrative systems or professional development of staff. As the resolution of these issues continue to dominate the theory and practice of distance and open learning, many countries in the world, especially those developing, became increasingly attracted to this form of education.

The current situation in Asia

In Asia, like in other regions of the world, the countries are as diverse in many respects just as they are similar in others. Some of the common features include huge and rapidly expanding populations which are still mainly rural, an exceptionally large demand for education which has not been met, the lack of adequate capacity of conventional educational systems to provide access for all, and the inequitable representation of those who have been marginalised through resources, location, economic and other reasons. Let us briefly take a look at the current statistics in Asia.

- Two-thirds of the world population are in Asia (about 3 billion).
- By the year 2000, 800m more bodies will be added to the already teeming population.
- There are 1 billion children under the age of 15 years and up to 400 million under 24 years are out of formal education.
- 500 million adults, over 24 years need education in one form or another in a region characterised by heavy population, incredible migration, and rapid mobility.

From these statistics, the dimensions of Asia's educational challenges are staggering by any standards. One implication of these statistics is that the population is increasing by more than 50 million per year with a very high proportion needing to be educated. To cope with just the primary level of education, the capacity of schools and resources will need to increase by at least 60%. This will need to increase by about 40 percent to cope with the demands for higher education. At the moment we have not even begun to scratch the surface. This has forced almost all the countries within Asia to seek for solution by

experimenting with unconventional modes in order to meet the huge and enormous challenges of mass education for national and individual development. Given the pace with which distance and open learning is still being embraced in Asia it will not be too long before Asia has about a dozen mega universities. Although open education can be said to be a relatively new phenomenon within the Asian region the exponential growth in the number of institutions and students studying by distance education has made Asia the new home of this type of education. Asia now has by far the largest number of students using this mode of education, compared to other regions of the world (Murphy & Yuen, 1997), and as revealed by a recent study of open universities, five of the ten mega-universities (those with over 100,000 enrolments), are in the Asian region (Daniel, 1996). These Open Universities are located in China, India, Indonesia, Korea and Thailand. It will not be out of place to suggest that several of the factors which gave rise to the emergence of the regional economic giants dubbed the Asian Tigers have certainly exerted some impact on the educational sector necessitating the clamour for Higher Education to produce the human resources needed in the labour markets of these newly industrialised economies. In most of the Asian countries therefore, central governments' recognition of the need to use education as a potent force for national and regional development embarked on the establishment of dedicated open learning institutions.

A number of reasons have been suggested to explain why distance learning in higher education has become very topical in national, political and professional circles. First, according to Daniel (1997), the world now has nearly thirty years of experience of the success of a new type of university. Second, learning and teaching, especially through the distance mode has become associated with the tremendous growth of the interactive computer and communications technology. Beginning with print intended purposely for correspondence education, the delivery of education to remote students has gone through the Multi-media model, the Telelearning model and now the emerging fourth generation of distance education, the Flexible Learning Model (see a discussion of the generations of technology by Taylor, 1994). Third, associated with the exponential population growth in the world, is the need to educate and train the mass of people for the 21st century: no guessing, therefore, why Asia has the world largest student enrollment in distance and open learning systems.

The case of Hong Kong is a bit unique within Asia and in the world, as you may all know. There are about 6.5 million people in Hong Kong crowded within a space of less than 1,100 sq.km. This translates to mean 5,900 persons per sq kilometer. Only a quarter of a million people are in Higher Education, while thousands more clamour for it with hardly any more room in conventional educational systems to accommodate them. Yet, we need to provide access to all, as well as provide a quality education to those who have access. Education needs to reach those who are disadvantaged by location, finance, time, and resources. The Open University of Hong Kong which began as the Open Learning Institute in 1989, became self financing in 1993, and a fully fledged university in 1997. We have graduated over 6,000 through our various degree programmes and currently have 24,000 students enrolled in four Schools and Continuing Education Centre. Our students are mainly based in Hong Kong, although we are by a combination of factors, which include natural expansion, and recent reunification with our Motherland, pushing into China. Therefore, it may not be too long before OUHK becomes another mega university in Asia.

One very unique feature of distance and open learning in Hong Kong is that the term 'distance' has been redefined as applied to education due to the nature and geography of Hong Kong. Every part of the Special Administrative Region is accessible within 30 kilometers and one hour of transportation by road, rail or water. Compared with Australia or the United States of America or even New Zealand, our need to take the distance out of education has not been driven largely by sheer need to bridge physical separations. It has been based mainly on providing access as open as possible to those who are always willing to avail themselves of the opportunities education affords them in the quest to continually meet the demands of our ever changing socio-economic environment. The fast pace of business in a world financial capital such as Hong Kong places a lot of demand on its educational system especially to develop in double quick step its human resources. Our university is in the fore front of meeting these daily challenges.

The increasing need for nations to raise the quantity and quality of human resources through higher education will undoubtedly put more pressure on the demand for distance and open education. If the

current global trend of dwindling places for employment and high cost of acquiring education is anything to go by, there is no guessing the fact that we in the business of providing distance and open learning will continue to have a barrage of applicants to wade through. An additional factor that operates mostly in developing countries is the rapidly increasing population. Even at current rate of population growth, no developing country can or has the capacity to provide enough classroom space for all who need education. One can imagine what will be the situation in the next millennium when it is forecast that the world population will hit the 6 billion mark. The global search, especially in developing countries, for a cost effective and efficient way to provide appropriate response to the call to widen access to higher education will further make more demands on distance and open learning. As a result, developing countries in Asia will need re-examine a number of issues in order to meet several challenges and to be fully prepared for the future of education by the distance mode. What are these challenges? Let me spend the remaining time for this presentation in discussing five of the most significant challenges, as I see them.

Redefining Distance education

Traditionally, distance education had initially meant providing a mode of instruction in which learners and their instructors are assisted to overcome the communication barrier of location. Thereafter and due to developments and transformation in education, technology and instructional design, the element of communicating in different or same time frame has come into fore. The use of the term "distance" has therefore moved from technically referring to the barrier of location alone. Contemporary developments and advancement in telecommunication, and computer technology especially, have added the facet of "virtuality" to imply the ability to timeshift as well as overcome geographical distances. Additionally, development within distance education has led to the emergence of other terms such as "distributive learning", "distributed learning", "advanced distributed learning". It would appear therefore that the time has come when the review or at least the comprehensive explication of the term "distance education" be undertaken to extend its borders beyond the inclusion of the timeshift element and geographical distance. In our case in Hong Kong the redefining of distance education in its application has been to look beyond providing education within a community in which everyone lives within about one hour of our campus. There are as many answers as can be imagined but perhaps the most crucial is that most Hong Kong learners, particularly those who wish to undertake their learning through distance education want to be able to timeshift their learning. Several other developing countries I imagine are at this stage of their development one way or another. This makes it imperative for the distance and open education world to review distance education.

Distance Teaching

Closely related to distance education is distance teaching. Many will argue that by implication distance education includes distance teaching. Others might however argue that it has neither been placed at the centre stage of our practice nor has it been examined often enough to engender consensus among practitioners. According to Rowntree (1998), considering technology's potential for outglitzing pedagogy, this is a question urgently in need of debate. He suggests that distance teaching must be seen to constitute something much more than (i) delivering information for learners to learn, (ii) providing an online or other forum where students can share their conceptions and ideas of the subject and (iii) administering tests or assignments that offer students only numerical or letter grades by way of feedback on what they have made of the subject. It appears that many people erroneously mistake distance communication for distance teaching. In any teaching situation, every learner must be made to react or interact within a humanistic and cognitive constructive environment in which "learning" and "learner-centered" is more important than mere communication.

From a cursory observation of what is going on around the globe in distance and open education provision, it would appear that the provision and design of instruction has been upstaged by the use of technology in and of itself as a delivery system with little regard to learning from the perspective of the learner. The use of technology as a medium (and not the message) must address the 'what' and 'how' as the learner responds and integrates the knowledge, attitudes, values and skills that the instructional materials attempt to facilitate their construction. The inclusion of all types of behaviors that facilitate learning and knowledge construction must allow the learner to be critically reflective in a teaching

environment which encourages role-playing, problem-solving and posing, etc. While distance education addresses the issues such as accessibility, affordability, applicability, and accountability, the issue of appropriateness and relevance must be uppermost in our minds.

Relevant distance education and teaching

Talking about relevance brings me to the issue of cultural relevance in distance education. No one questions the universality of the either the theory or practice of distance education. But to pretend that they might mean the same thing and be practiced the same way in developing countries as occur in the developed world may lead to committing what could be regarded as a "type I error" in education. Even within the developing world, situations differ from country to country. In Hong Kong, we have witnessed in the recent past a barrage of wholesale importation of hundreds of offshore distance education programmes some of which could hardly be called distance education let alone having any semblance of quality. Propelled by the urge to make fast money, many of the non-local providers of distance education in Hong Kong are oblivious of the need to consider relevance of their materials to local culture, language and circumstance. There seems to be a second generation colonization of the educational world in which the colonizing organisations completely and wantonly disregard what occurs in and the need of the local environment. They are not only contributing to giving distance and open learning as bad name they are negating or in fact destroying the motivation and objectives of developing countries in embracing the distance mode of education. Even for us at the OUHK, our movement into mainland China has been cautiously guided by our need to tailor our courses to the local situations and needs within China (the same Chinese community) knowing that what obtains in Hong Kong does not necessarily apply to the mainland.

Quality

A lot has been and still being said about quality of and in distance and open learning. I would only add my voice by drawing attention to one or two subsidiary issues in this regard. It is a known secret that distance and open education is largely based on economies of scale. The larger the scale, the wider the door opens, but the more difficult it is to offer a quality educational experience for our learners. When people talk about quality they often mean how equivalent distance education is with traditional education. Distance education and open learning institutions often wrestle with the issue of equivalence status when in fact they have a different mission, different programme orientations, different methods and different students. It is often therefore a wonder why two dissimilar systems struggle for equivalence.

The lack of physical and other resource-based capacities of conventional educational institutions to provide access to all or even to provide a quality education to those who have limited access to their programmes, also often lead to uneducated resistance by many conventional teachers and educational administrators to the unfamiliar terrain of the philosophies and practice of distance and open learning. The most interesting and ironical occurrence to date is that probably with the exception of dual mode institutions, most single mode distance and open learning institutions make extensive use of staff from conventional institutions as tutors, instructional developers, external examiners and reviewers, as part of accreditation teams, etc. So in a way, quality is being assured with the use of those who form the central core of those who determine quality in conventional instructional modes. Perhaps what distance and open education providers in developing countries must begin to embark on, at a bigger and more organised scale, is the comprehensive staff development of this group of "invited" workers from conventional institutions to provide adequate and appropriate orientation to the philosophies and practices central to distance and open education. The systematic development of staff who participate in distance and open education will lend tremendous support to the claim of quality education in distance and open education, and its equivalence with, if not superiority to, conventional education.

Collaborative Networking

In view of the difficulties in keeping pace with development in knowledge explosion, telecommunications, distance and open learning, developing countries would benefit immensely by taking advantage of developments in technology to interact through a collaborative network.

Additional to the issues raised earlier, there is also a number of specific reasons why tertiary institutions offering instruction by the distance mode should network in developing countries, especially of the Asian region should institute a collaborative network. Some of these reasons include the following:

1. Common purpose
   All open and distance education institutions have a common purpose of providing quality lifelong education and training appropriate to the rapid economic development taking place in the region and tailored towards the needed flexibility for catering for the huge demand in education and the labour market for constant training for upgrading or converting qualifications.

2. United front
   Although the Asian countries have distinguishing cultural, geographic, political and linguistic characteristics which at times could constitute barriers in developing relationships at times, it could equally be argued that the common interests of the institutions which have developed from geographical, political or linguistic alliances (Trindade, 1997) should be pursued through a united front.

3. Globalisation and strategic bonding
   Development centered globalization (Dhanarajan, 1997), which addresses issues such as internationalised knowledge systems, the changing patterns of communication, and the penetration of technology into the social, educational and cultural fabric of communities, suggests the need for institutions to form strategic bonding in reviewing and managing the changing face of the global market and educational arena.

4. Complementing similar networks
   Open and distance learning institutions in other regions of the world have established and continue to maintain constant professional inter-relationships through national, regional or academic and professional organisations. There are networks such as EDEN (Europe), CAADE (Canada), DEOS (USA) and RESODLAA (Australia). These electronic networks have been found to be a useful way of taking the distance out of learning and teaching. A collaborative network will also serve a complementary role to the ones already available, and also serve a specific regional function.

The collaborative network will provide the open and distance learning institutions in the Asian region to do a lot of things which distance or the lack of face to face meeting prevent. For example, the collaborative network could be used to promote (i) intra and inter-institutional co-operation, (ii) the rapid sharing of information on changes in educational paradigm, (iii) management of distance learning, innovation in pedagogy and technology, etc. as and when available or needed, (iv) the maximisation of the use of scarce resources by sharing across geographical and other borders develop a collegiate environment towards common professional and educational matters within the region, and (v) effectively manage learning in an environment which indicates that the borders between traditional and open universities might soon become blurred with emerging developments in technology and education.

However, the concern that the use of collaborative networking through technology might further marginalise the 'haves' and the 'have nots' within the developing world is real and will need to be tackled. Developments should not further widen the already existing gulf between the emerging economies and the yet to emerge ones within the developing world. Similarly it should not marginalise the developing world in what should be a concerted effort toward a common global development in distance and open education.

It is my hope that the future of distance and open learning in the developing countries will continue to be rosy and be of use to members of the public who need education. Challenges are imminent and would need to be effectively managed for a smooth and positive transition into the next millennium. What must occupy our minds right now is how best to face the challenges and effect the necessary changes.

REFERENCES

Battenberg, R. W. (1971). The Boston Gazette, March 20, 1728, *Epistolodidaktika*, 1, 44-45.

Dhanarajan, G. (1997). Globalization, competitiveness and open and distance education: Reflections on quality assurance. Invited lead paper presented at the 11th Annual Conference of the Asian Association of Open Universities held at the Putra World Trade Centre, Kuala Lumpur, Malaysia, 11-14 Nov 1997.

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

Daniel, J. (1997) Mega-Universities, virtual universities and knowledge media: Can we have quantity with quality? In Chooi, C. P et al (Ed). *Proceedings of the 11th Annual Conference of the Asian Association of Open Universities* held at the Putra World Trade Centre, Kuala Lumpur, Malaysia, 11-14 Nov 1997.

Holmberg, B. (1989). *Growth and structure of distance education*, London: Croom Helm, 7-11.

Jegede, O.J., & Tam, S. W. (1998). A framework for professional and academic networking and collaboration amongst distance and open education providers within Asia. In M. Parveez (Ed.) *Proceedings of the Collaborative and Networked Learning conference* organised by Indira Ghandi Open University, New Delhi, 41-44.

Manjulika, S., & Reddy, V. V. (1996). *Distance education in India: A model for developing countries.* New Delhi: Vikas Publishing House Pvt Ltd.

Murphy, D. & Yuen, K. S. (1997). *Asian Research on Open and Distance Learning.* A report. Open Learning Institute of Hong Kong.

Rowntree, D. (1998). What is Distance Teaching? Communication to DEOS-L@LISTS.PSU.EDU, Mon, 24 August.

Taylor, J.C. (1994). 'Technology, distance education and the tyranny of proximity'. *Higher Education Management,* 6, 2, 179-190.

Trindade, A R. (1997) Address by the president at the 18th ICDE World Conference. *Open Praxis*, 2, 6-8.