

E-LEARNING AND DISTANCE EDUCATION:

**EXPERIENCE OF OPEN UNIVERSITIES IN
ASIA-PACIFIC COUNTRIES**

By

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Distinguished Guests, Ladies and Gentlemen.

It seems to me that the best way for us to discuss e-learning and distance education in Malaysia is to look around us and study the experience of Open Universities in the Asia-Pacific region. What is remarkable is the uniqueness of experiences amidst the general inclination to pursue distance education and e-learning. Just about everyone who has introduced distance education and e-learning in his country has been taken with its potential for increased access to high-quality education and for the opportunities for educational innovation and improvement of the quality of knowledge and skills that it offers. Just about everyone is taken with the potential of distance learning to increase access, decrease costs, and sustain high quality education.

As we set out to develop our own unique kind of distance learning in Malaysia, it is very useful to notice how distance learning has always been situated in a particular social and economic matrix of a country.

In the new millennium we need an educated populace capable not only of finding information, but also of critically evaluating and selectively applying what they learn. And we need an educated body of professionals who are able to tap into new developments in their professions to keep their skills up-to-date and competitive. We need to recognize the value of continuous lifelong learning and to actively encourage people to update what they have learned before and to explore new knowledge that they require to remain useful and employable in new environment. E-learning and distance education are powerful tools for making this kind of dynamic populace a reality.

Within the context of rapid technological advancement in an increasingly globalised economy, those who are in the business of providing education are continuously challenged to provide ever better educational opportunities to ever

more students. The development of open-learning institutions of higher education seems to be now our best option as providers of educational services.

We all believe in the democratisation of education and in the enhancement of academic productivity through technology. The more our populace who are able to have access to education that improves their knowledge and skills, the more prosperous the country will be. Distance education could be harnessed to open wider access to education, particularly to all those who need it most but could least afford it. As distance learning is made ever more widely available, it has the potential to raise standards of living and quality of life for greater numbers of our population.

First, what are these things, e-learning and distance education, that we are talking about? E-learning or online instruction implies a connection between the student's personal computer and a computer system or network at a distance, whether across campus or around the world. The interactive textual exchange in learning networks is referred to as 'Computer Mediated Communication (CMC)'¹. In such learning networks, teachers and students communicate with each other either in real time (that is, synchronously) or off-line and sequentially (or, asynchronously)².

Distance education (which I take to be synonymous with open learning), could be defined as a process of teaching and learning that takes place when teacher and student are separated by physical distance. Technology (be it voice, video, data or print), often in concert with face-to-face communication, is used to bridge the instructional gap. So distance education may include e-learning, or it may not.

What concerns us today is e-learning, a particular mode of distance education. As we shall see, distance education around the Asia-Pacific region is still a

Harasim, L., Hiltz, S.R., Teles, L. & Turoff, M. 1995. Learning Networks: A Field Guide to Teaching and Learning Online. Cambridge, MA. MIT Press.

² The University of Illinois. 1999. Teaching at an Internet Distance: the Pedagogy of Online Teaching and Learning. The Report of a 1998-1999 University of Illinois Faculty Seminar.
URL: http://www.vpaa.uillinois.edu/tid/report/tid_report.html. October 2001.

mixed bag, ranging from virtually no e-learning component to virtually exclusively e-learning. The key is that successful distance learning must both satisfy academic requirements and meet student needs. E-learning is one way of doing both. It often comes as part of a total distance-learning package.

Malaysia has only recently gone into distance learning seriously. There are a few major reasons for this. The economic recession of 1997 has reduced resources at the disposal of universities for accommodating the ever-increasing numbers of students requesting admission. And universities are not the only one suffering from the recession. Increasing unemployment and retrenchment in the country calls for investment in re-training of the workforce for new kinds of jobs. Distance or open learning will have to complement the efforts of the traditional campus-based universities and centers of training. In Malaysia, the government has also declared its goal to have 40% of Malaysia's population educated through university level by 2020, a considerable increase over the current 25%. There is therefore, an urgent need to intensify distance-learning given the constraints of space in the government universities. The private colleges and universities are still not within the reach of many given the fact that the fees are much higher than those at government higher education institutions. Distance learning then becomes most viable.

This is why the government has agreed to the formation of the Open University Malaysia or Universiti Terbuka Malaysia (UNITEM). It has the dual role of providing a social service assisting the government to produce the manpower needed to handle the demands of an industrialised nation by 2020 while acting as an exemplar for the proper management of high quality and pedagogically sound distance education.

Yet there is another compelling reason why many countries now find distance education attractive, and that is the exponential growth of communications technologies and their increasing availability to the public at large. Not only is the technology seen as a field of knowledge in itself, it also presents itself as a powerful tool for the dissemination of educational programmes. And with the development of the interactive capabilities of new communications and information technologies, this powerful tool is continually revealing new

possibilities for the interactive construction of knowledge, the personalization of course content, and the training of communication skills that will be essential for participation in a k-economy.

We now turn to a brief overview of the educational ecologies in a number of Asia-Pacific countries, focusing especially on distance learning facilities and the place of e-learning in their distance learning programmes.

Some Experiences of Asia-Pacific Countries

CHINA

In China, tertiary education provided in a distance-learning mode was first offered back in the 1950's in the form of printed matter correspondence courses. The mode of delivery then progressed into broadcasting, through radio and television in 1960 when Beijing and Shanghai Radio & TV universities were established. The opening of China to the outside world in the 1970s led to educational reforms, so in 1979 institutions of higher learning offered post-secondary education via distance mode.

With its population unevenly distributed and mostly at great distances from the centralized universities, it has presented challenges to making higher education accessible and equitable to great numbers of people. Senior Leader Ding Xiao Peng, China's major educational reformist, mandated the China Central Radio & TV University (CCRTVU) to make tertiary education more accessible to these citizens via distance-learning. The primary outlets for CCRTVU-distributed education are rural and remote regions, as well as those regions with ethnic minorities.

While several universities in China offer both traditional and distance education, the CCRTVU is presently the largest university dedicated to open and distance education in the country. It is well positioned to take maximal advantage of China's communication infrastructure, including postal services, radio and TV satellite broadcasting, telephone or telecommunications. For instance, the

percentage of people having TV in their homes is very high (92% in 1997³), making radio and TV broadcasting the most appropriate media for channeling post-secondary education to the population at large. More than one million graduates have received their vocational education through this system, and more than six hundred thousand have done their teachers' training there, not including the thirty-five million who took non-graduating courses. Degrees are awarded in the areas of Natural Sciences, Engineering, Economics, Management, Humanities, and Agricultural and Medical Sciences. The CCRTVU system has devoted substantial funding from the Chinese Ministry of Education towards upgrading teaching facilities and introducing CCRTVU networking into some provinces equipped with broadband connections.

The CCRTVU produces its own materials of all sorts, including textbooks, video programmes, audio programmes, and computer-aided instruction or VCD programmes. It also has its own large stable population of academicians, with full-time or part-time teachers, ranging from assistant to full professors. Perhaps it is the stability of this large group of dedicated workforce that contributed significantly to the success of this Open University.

Strategic alliances with major international providers of distance and open education, notably from such countries as Great Britain, France, Thailand, Korea, India, Japan, and South Africa has helped in many ways the rapid growth in distance education in China

JAPAN

There do not seem to be many universities in Japan that offer distance education or open learning *per se* in spite of the country's superiority in information and communication technology. It may be that places available in traditional university settings are adequate to cater for the needs of school leavers. However, while it could be claimed that the correspondence type of distance education existed in Japan in the 19th century where lecturers' sent

³ Sun, L., 1998, Educational Statistics Yearbook of Radio & Television Universities in China. China Central Radio and Television University Press, Beijing. Cited by Yawan, Li 2000.
<http://www.com.unisa.edu.au/cccc/papers/referred/paper54-1.htm>

their notes to students, the actual practice of distance education began only after the Second World War in 1947⁴.

The University of the Air, Japan, or UAJ, is dedicated to distance and open learning education. It was established in 1983, not to provide additional routes to a degree, but to provide the public with college level education as part of their lifelong learning and professional development. Radio and TV broadcasting were initially used to distribute lectures.

Of the 320 courses offered, roughly half are being broadcast through radio and the other half through TV. The learning process for many courses has been enhanced through face-to-face interactions, a method preferred by many students. Students reports, assignments and responses to questions on the broadcast lectures are sent electronically or via normal mail.

UAJ's enrollment has been increasing steadily since its first intake in 1985. Of the roughly eighty thousand students enrolled in 2001, at least half are not enrolled in degree-earning courses. Almost half of all students fall in the 30 – 50 year old age range, and more than half are women, mostly housewives with children and elderly parents to care for – which may account for the popularity of the courses on Educational Psychology and Health Sciences. Students regularly receive financial support in terms of special postage and transportation discounts, loans and tax deductions, as well as the benefit of having their UAJ credits recognized for transfer credit at about 150 Japanese colleges.

Japan's University of the Air seems to be meeting the needs of mature students who are seeking less for qualifications than for professional development or for self-enrichment.

PHILIPPINES:

In the Philippines, distance learning post-secondary education was first provided by the University of the Philippines (UP) system in 1988. A bachelor

⁴ Venugopal Reddy, et al. 2000. The University of the Air (Open University) Japan. In V.Venugopal Reddy & Manjulika, S. (Ed.) The World of Open and Distance Learning. P349. Viva Books Pte. Ltd. New Delhi.

degree programme in Science and Mathematics Education was developed by University of the Philippines in Los Banos and extended to schoolteachers under the STUDI (upgrading of Science Teachers Utilising Distance Instruction) scheme.

A separate university, the University of the Philippines Open University (UPOU), was established in 1995 to cater for the higher educational needs of non-conventional students and working adults. It makes use of the intellectual resources and tested faculty of the other six constituent universities (units) of the University of Philippines systems. Diploma and degree programmes are being offered in Sciences, Education, Management, Humanities, Agriculture, Medical and Public Health Sciences, and Computer Science. Non-formal professional development courses in Cultural Studies, Special Child Care Studies, e-Commerce, and Information Technology are also offered. E-Commerce, IT in Health Research and Cultural Studies are available as online courses.⁵

In a short period of time the Philippines Open University has mounted an ambitious distance learning program for the benefit of non-conventional students and working adults, although it is only now moving towards electronic delivery of its courses.

NEW ZEALAND

New Zealand's educational system has an international reputation for excellence and is ranked within the top third of the OECD countries. The participation of people under the age of 30 in education and training is high and is similar to that in the OECD countries. In 1995, for example, almost one-third of New Zealanders between 18 and 25 years of age were participating in tertiary education.

Distance learning in New Zealand provides education from pre-school to grad school. The Correspondence School of New Zealand has catered for early childhood, school and secondary school education since 1922; the Open

⁵ Establishing the UP Open University, October 2001.
URL: <http://www.upou.org/upoupages/upou.htm>

Polytechnic of New Zealand has provided for technical and trade studies since 1946; and Massey University conducts distance education degree and diploma programmes.

Open Polytechnic of New Zealand (OPNZ) is presently the leading and only specialist provider of open and distance learning at the tertiary level in New Zealand. It is also one of the larger tertiary institutions, with over 30,000 students enrolled annually. Over the last 50 years some 750,000 students have studied at OPNZ in the areas of Engineering and Technology, as well as Education and Community Service; Health; Financial Services; Business and Management; Computing Information System and Technology; Psychology, Health and Well-Being; Horticulture, Agricultural and Natural Sciences; and Planning and Construction.

Like China, New Zealand has also established cooperative relationships with open universities in the United Kingdom, Canada, and Australia – evidence of the aggressive internationalisation of New Zealand education.

In the context of its own indigenous student population, OPNZ has attracted students from all walks of life, essentially those who do not normally get access to traditional universities and colleges, because of physical distance, family commitments (with children), physical disabilities (sight and hearing impairment), social displacement of indigenous peoples, or financial hardship. Interestingly, in 1998 over 200 students from 17 penal institutions were amongst students who studied at the polytechnic.⁶

Students of OPNZ receive course materials which may include study guides, textbooks, a list of readings, self-tests, and assignments. For some courses, videos or CD-ROMs floppy discs are provided. Attendance at contact seminars, workshops, or audio conferences might be necessary in certain specific courses. Students have access to tutors, and student support services via freephone service, email or fax. An online library is also available. Full

⁶ Grote, W., Harris, K. & Standing, D. 2001. The Open Polytechnic (Single Mode Institution), New Zealand, pg.358 in Venugopal Reddy, V. and Manjulika, S. (ed). The World of Open and Distance Learning. Viva Books Pte. Ltd, New Delhi.

online courses are slowly being developed especially with the increase in the Internet penetration rate amongst students of OPNZ.

AUSTRALIA

Australian education is much sought after by students of the Asia-Pacific region. Australia with its literacy rate of 100% ranks seventh in the OECD countries with 15% participation of 17 – 34 year olds in tertiary education. In 1998, 13.4% of the 672,000 students enrolled in Australian universities were external or off-campus students.⁷ The advancement of distance education in Australia far surpasses that in other nations, driven by the fact that the country's population is widely and sparsely distributed in the biggest island nation of the world. Australia moved to distance education was not out of choice but out of necessity, as a way of providing access to compulsory education to those who need it most

Australia has the longest history of higher education distance learning in the Asia-Pacific region. The first experiment with distance education was initiated by the University of Queensland in 1911, followed by University of Western Australia in 1925, the University of New England in 1955, and the Colleges of Advanced Education (CAE) in the 1960s and early 1970s, in the delivery of campus programmes via distance learning to Australian students. The demand for distance education continued to surge into the 1990s. In the space of 35 years, student enrollment in Australian institutions of higher learning expanded from about five thousand external students in 1964 to more than ninety thousand in 1998. About one-tenth of those external students were from overseas.⁸ A more recent development is the offering of Australian distance education degree programs offshore.

The University of South Australia for example delivers courses both in traditional campus settings and in distance learning modes. External students

⁷ King, B. & McCausland, H. 2001. University of South Australia (Dual Mode University) Australia. Pg.399. in Venugopal Reddy, V. & Manjulika, S.(Ed). The World of Open and Distance Learning. Viva Books Pte Ltd. New Delhi.

⁸ Roberts, D. 2000. Continuity and change in distance education at Australia universities: some personal reflections. International Distance Education and Open Learning Conference. Distance Education: An Open Question. Paper 39. URL: <http://www.com.unisa.edu.au/eccc/papers/refereed/paper39/Paper39-1.htm>

account for about 15% of the total student population. The university offers forty distance learning courses leading to undergraduate diplomas, degrees and graduate awards from post-graduate certificates to doctorates. In terms of preference of academic programmes at the undergraduate levels, Education and Nursing appear to be the disciplines of choice, followed by Aboriginal And Islanders Studies, Humanities and Social Sciences, and Business. The intake for Information Technology and Engineering are very limited.

The instructional system employed by the University of South Australia uses a substantial proportion of printed materials. Learning packages include subject information materials, study guide, additional resources such as video and audio-tapes, CD-ROMs, floppy discs, workbooks, cassettes, and self-assessment exercises. Many of the subjects offered are online.

In summary, Australia's distance learning programmes have been developed to satisfy the demand for a wide range of courses at an extraordinary range of levels, driven by the necessity to get education to its widely and sparsely distributed population.

HONG KONG

As a major international trading and financial center, Hong Kong possesses an excellent infrastructure to support its economic activities such as the highest telephone line penetration in Asia (55% of the population), an extensive mobile telephone network and thousands of fax lines⁹. Household PC penetration is currently at 40% of the population and the internet penetration is roughly 25%. However, amidst the advanced economic, technological and sociological development, the penetration of higher education is relatively low, with only about 9% of the population attaining first degree qualification. There are eight government-controlled tertiary level educational institutions.

Part-time study demand is nevertheless extremely high, with roughly 400,000 working adults studying various courses and programmes. Before the establishment of the Open University of Hong Kong in 1989, most distance

⁹ Yng and Wong, "The Open University of Hong Kong", *The World of Open and Distance Learning*, Ed. V.V. Reddy, S. Manjulika, Viva Books Pte. Ltd., New Delhi, 2000

earning courses were taught face-to-face by foreign universities and the distance learning sections of conventional universities in Hong Kong. The students' perception was that programmes from conventional universities using the classroom mode were superior to distance mode teaching.

The Open University of Hong Kong, being the only single mode university, i.e. with programs solely delivered through distance education, was established in 1989 as the Open Learning Institute with a government mandate to provide quality higher education to all Hong Kong adults. Modelled on the UK Open University, by 1995, its enrollments had grown from 4,500 to 20,000.

The Hong Kong University of Science and Technology (HKUST) has some courses that can be taken completely online in their College of Lifelong Learning¹⁰ (CL3). Not only are courses run using both synchronous and asynchronous communication online, but students are also given both digital and physical access to the campus library. As study support for students, HKUST has a Self-Access Center (SAC), where students can get free service for studying any aspect of language learning.

The Open University of Hong Kong (OUHK) currently has about 26,000 students in 78 programmes where entrance to the university is quite open, the only requirement for enrolment to an undergraduate program is having a minimal age of 17. The average age of a student is 32 years old. The university provides Internet and Electronic Library access to all its students. Some courses already utilize a variety of online delivery methods on a WebCT platform and many more are being planned.

OUHK is taking a pragmatic approach to adopting a totally online education. While realising that they have to incorporate technology into education to remain competitive, they will continue to develop print-based materials in parallel with technology-driven modes, at least in the "transitional" period.

Therefore for Hong Kong has made good use of its excellent connectivity and digital resources in developing its online distance learning. What is ironic about

¹⁰ HKUST College of Lifelong Learning website, <http://www.cl3.ust.hk/cl3/?programs>

Hong Kong's distance learning situation is that in fact physical distance is almost non-existent as a motivation to developing distance education. In Hong Kong, the big challenge that distance learning is designed to meet is actually the scarcity of time in a very busy socio-economic setting where educational advantage translates into economic leverage.

THAILAND

Thailand, a large and heavily populated country, currently has 5.4 million phone lines and 2.3 million mobile phone users. There are 15 internet service providers for about 1 million internet users (about 1.6% internet penetration rate).

The total number of university graduates in Thailand in 1996 was just over one hundred thousand, representing less than 0.2% of the total population¹¹.

Currently two universities in Thailand, Ramkhamhaeng University (RU) and Sukhotai Thammathirat Open University (STOU), are providers of distance education. RU was established as a university with open admission in 1971. However, it has had both on-campus and off-campus programmes since its inception. It soon faced the problem of shortage of physical space within its campus to cater for increasing number of students. A new open admission university, STOU, was then established only eight years later in an attempt to solve this problem. RU remains a dual mode university while STOU is solely a distance education provider with a distributed education system, using study centres around the country.

The instructional modes at Ramkhamhaeng University (RU) combine on-campus instruction and distance learning through mail, radio, television, and other modern facilities. Students may choose to use any or all of these modes of instruction to fit their learning style. Print-based, recorded audio and video lessons and online materials are available to students to study at home.

All courses at RU have access to an online delivery platform, Education Sphere. Students are able to access course syllabus, class schedules, deposit

¹¹ Thailand Board of Investment website, <http://www.boi.go.th/english/thailand/index.html>

assignments, view grades, access message boards, take part in interactive text chats, etc. Some course materials, such as for language learning, include some animation and audio clips within the platform.

Sukhotai Thammathirat Open University (STOU) uses a mixed media distance learning model with printed materials as the core medium. Added support is given through radio and television broadcasts, video and cassette recordings, face-to-face tutorials, computer-assisted instructions and resource-based materials.

However, even with distance learning universities, Thailand is struggling to extend education to all its peoples. Its distance learning institutions enrol large numbers of students, but attrition rates of over 75% surely indicate other difficulties besides accessibility – many of which might be socio-political -- that are limiting the success of distance education in this large, populous and multi-ethnic/multi-lingual country.

INDIA

India has a land area of more than 3 million square kilometres and a population in excess of 1 billion. Nearly 48% of its population is still illiterate and 66% of its population lives in rural areas. It has a complete communication and telecommunications infrastructure with 302 radio and 562 television broadcast stations, 27.7 million landlines and about 2.93 million cellular telephone subscribers.¹² However, the PC penetration rate is very low, at about 0.12%¹² and the internet penetration rate is about 0.5% of the population. About 35% of its population is defined as being below the poverty line.

Distance education was first introduced as a pilot project at Delhi University in 1962 in the form of correspondence courses. Their success spurred the Indian government to introduce these correspondence courses in other universities. To establish their credibility, the correspondence courses adopted the same syllabi as the conventional on-campus courses. Currently, more than 50

¹² Manjulika, S. and Reddy, V., "Indira Gandhi National Open University", *The World of Open and Distance Learning*, Ed. V.V. Reddy, S. Manjulika, Viva Books Pte. Ltd., New Delhi, 2000

universities offer correspondence-type education in India, making it one of the largest dual mode systems in the world.

The system of correspondence education continued to suffer from the same rigidities as the conventional university system with respect to distance learning. Efforts were not made to prepare study materials to be suitable for the self-learner. Notes sent to students were not much different from those available on campus. Thus the correspondence education institutes were perceived as merely appendages to conventional universities, receiving low priority for funding and academic services. Partly because of this situation, science and technology courses were not introduced until the 1980's.

The state of Andhra Pradesh established India's first open university in 1982. This university, now known as Dr. B. R. Ambedkar Open University (BRAOU) operates autonomously and as a solely distance education university. In 1985, the Indira Gandhi National Open University (IGNOU) came into existence by an act of Parliament. Soon after, 7 other state governments set up their own open universities, making India the country with the largest number of open universities. Currently, there are 58 dual mode universities, 9 open universities and a national open university (IGNOU) in India.

IGNOU currently offers 50 academic programmes with approximately 600 courses in various disciplines leading to certificates, diplomas and degrees. IGNOU has taken a multimedia approach in developing its learning materials. Print based materials are developed in conjunction with audio and video programmes. It supplements these materials with face-to-face contact sessions at its various study centres. To give more weightage to interactivity in its courses, IGNOU has introduced radio counselling, telecounselling, e-mail and Internet based learning. In addition, to take advantage of the extensive television network available, IGNOU has also supplemented its delivery system with television broadcasting from 1990 onwards. Teleconferencing has also been added to its delivery repertoire with 163 downlink locations currently available with this mode of delivery. There are some online learning facilities for some subjects, and IGNOU provides tele-learning centres for information

technology courses, but by and large, e-learning has not been implemented as the primary mode of delivery for any courses as yet.

India has the largest number of open universities, mostly mixed media, to serve their enormous constituencies. IGNOU, India's mega-university, makes heavy use of more traditional technologies such as print, radio and telephone, more suitable to the affordances of the 196 thousand students it is meant to reach. With PC and internet penetrations of less than 1%, it makes sense to rely more heavily on non-digital technologies for course distribution.

Allow me now to dwell on the situation at home.

MALAYSIA

In Malaysia, e-learning has been slow to gain a foothold. Traditional distance learning courses have been made available by public institutions of higher learning since 1971, when Universiti Sains Malaysia (USM) started its correspondence courses¹³. Five other public universities and two private universities followed suit only considerably later, in the 1990's. An early objective of the distance learning programs was to duplicate the current on-campus programmes for off-campus students while maintaining course content, quality and accreditation. Modes of delivery included text-based materials, audio/video materials, radio & television broadcasting and face-to-face teaching. Early Internet usage was in the form of e-mail but was minimal.

Until the 1990's, there was not much impetus for local universities to deliver distance education, as the numbers of regular enrolment in the local universities were small. The Malaysian government at the time was still sending many students to overseas universities, especially ones in the United Kingdom and United States. Out of twelve public universities, 6 have established distance-learning programs. The management of the distance learning sections of these universities is currently being consolidated and transferred to a company called METEOR (Multimedia Enhancement Technology Operations), a consortium of 11 public universities, to allow the

¹³ Ahmad, Sapiyan, Kaur, "The University of Malaya (Dual Mode University), Malaysia", *The World of Open and Distance Learning*, Ed. V.V. Reddy, S. Manjulika, Viva Books Pte. Ltd., New Delhi, 2000

public universities to concentrate on on-campus programs. A new private university, the Open University Malaysia (UNITEM), was spawned from METEOR to cater solely for the distance education market.

Currently, traditional “brick-and-mortar” institutions are unable to cater to demand for higher learning. More importantly demands are also increasing for tertiary level education from the working learners’ sector. It is obvious that for this sector, traditional on-campus education would not be a viable option for both the potential student and the employer. Clearly what is needed is the formation of either more traditional campus-style universities or of distance education-type institutions. Traditional universities require large initial investments of funding whereas distance education institutions require lower initial funding and can cater for working students’ learning requirements without the necessity of taking leave from their workplace.

In the 8th Malaysia Plan, the National Information Technology Agenda, NITA, identified E-Learning as one strategic thrust area that will cultivate life-long learning for individual organisational, institutional and societal advancement.¹⁴ It has established the Strategic Thrusts Implementation Committee (STIC) whose primary function for supporting the growth of e-learning in the country.

Let us examine what is happening in the public universities.

Public universities

Currently, 6 public universities have distance education centers, which provide some online interaction between students and instructors, but generally as supplemental to print-based materials and face-to-face interactions. The major reason for not implementing fully online learning is the objection by the university faculties as to the legitimacy of online delivery for their courses. The feeling is that if the courses are to be as similar to on-campus content, at least some face-to-face interaction print-based materials need to be the core delivery methodology used. Some stumbling blocks to posting material and interacting with students completely online are:

¹⁴ National Information Technology Council website, <http://www.nitc.org.my/5e/index.html#learning>

- lack of experience among the teaching faculty,
- a greater burden on teachers to invest blocks of time when their attention is more focused on on-campus duties;
- student inexperience and resistance to online learning;
- lack of expertise and competence in developing online instructional materials;
- insecure online assessment methods; and
- difficulties in detecting online plagiarism and unauthorized collaboration.

The management of the distance learning education arm of public universities are poised to move to METEOR Distance Learning Sdn. Bhd. (MDLSB) that would allow the public universities to concentrate totally on on-campus programmes. The programmes managed by MDLSB will in turn migrate to the Open University Malaysia (UNITEM), a company operated by UNITEM Sdn. Bhd., a wholly-owned subsidiary company of METEOR Sdn. Bhd. With the formation of UNITEM, there will now be a Malaysian university which is totally off-campus in its philosophy and dedicated to pursuing the advancement of quality self-anaged, supported learning.

Private universities: Distance Learning Experiment

Universiti Tun Abdul Razak (UNITAR) employs a quite comprehensive system for content development for their learning materials, and has extensive infrastructure and human resource allocation for their projects. They have developed a large collection of CD-ROM multimedia content to supplement the internet-based materials available to the UNITAR students, in line with their aspirations of becoming a virtual university. However, in light of recent requests by students to include some face-to-face interaction, UNITAR has set up several study centers around the country.

The main reason for the large collection of CDs developed by UNITAR is to overcome the bandwidth problem and to reduce online costs for the student. UNITAR also develops web-based materials that are not as multimedia rich

(again, due to the bandwidth limitations), but allow for more interactivity¹⁵. Higher-level courses have increased web content within a particular program.

UNITAR uses VOISS (Virtual Online Instructional Support System) as its primary online delivery platform. A digital library housing electronic collections in the forms of CD-ROMs and subscriptions to electronic databases, as well as a physical library, is available to all students.

The newest registered university operating in Malaysia is the Open University Malaysia (UNITEM), which started operations with its first intake of students in August 2001. The philosophy of UNITEM is to make higher education more accessible to the general public. UNITEM's delivery mode is generally referred to as a distributed-supported-learning model with current emphasis being given to supporting the primary print-based learning materials with face-to-face meetings, multimedia resources and online materials. There are presently 15 UNITEM student support centers around the country.

The eleven public universities which hold equity in UNITEM have made a concerted effort to provide quality study materials for UNITEM students from content they already have available. Currently, emphasis is placed on developing print-based modules as print is considered the lowest common denominator for Malaysian distance learners. Due to limited bandwidth availability, CD-ROMs are being developed to inject multimedia content into the courses. For interactivity and currency in content, web-learning tools using the WebCT platform are made available to students. Participation in web learning is encouraged by allocating marks (between 5% to 10% of the final total grade) for participation in certain discussion groups and by provision for mandatory active involvement of subject matter experts who act as "facilitators" in these discussion groups.

The target market for UNITEM students are generally from the working adults category and tend to be less computer and internet savvy as compared to the

¹⁵ Boucher, E., "Pioneering Virtual Education In Malaysia : University Tun Abdul Razak", Paper presented at Technology in Teaching and Learning in Higher Education : An International Conference, August 25-27, 2000 Samos Island, Greece.
<http://faculty.unitarkljl.edu.my/fhss/Publications/Esther1.0.htm>

younger group generally forming the bulk of universities students. There appears to be a psychological resistance in adopting new techniques to studying (not limited to online learning) amongst those students who have not been exposed to them from the outset. To minimize disruption in the study process, UNITEM has set up call centers to answer queries on technical matters and has integrated introductory courses on online learning in its curriculum.

Having surveyed a sample of distance education universities in the Asia-Pacific region, I shall now highlight some burning issues, which pose challenges and opportunities to all the stakeholders of distance and open learning.

ISSUES AND CHALLENGES

It is a truism to say that education plays a pivotal role in shaping the structures that support our future well-being. It is imperative then that societies of the world be given access to knowledge that is needed to make the earth a better place to live -- a less divided and more peaceful world. Distance education is a tested system of delivery of knowledge in both developing and developed countries, educating marginalized members of the society at both school and pre-school levels, upskilling or reskilling the workforce, making it possible to make one's professional knowledge relevant and current.

In Asia, as we have seen, distance education has been introduced as a necessary alternative mode of meeting the challenges of educating the masses for human resources development.

More than two-thirds of the world population is in Asia. Over 1 billion of Asia's population is under the age of 15 years. Up to 400 million, under the age of 24 years, are out of formal education. About 500 million adults over 24 years of age need post-secondary education of some sort.

This picture presents special challenges to education administrators of the region¹⁶. Although open education is a new phenomenon within the Asia-Pacific region, the exponential growth of the number of institutions and students enrolled under distance and open learning would seem to indicate an acceptance of this new mode of education. Five of the ten mega-universities practising distance learning (those with more than 100,000 enrollments) are in Asia, i.e. in China, India, Korea, Thailand and Indonesia¹⁷. All open universities in these countries have student population admission of 20,000 to 500,000 annually.¹⁸ All of them purport to have brought down costs and have gone into learner-centred educational programmes and have adopted the technologies appropriate to their respective infrastructural supports. E-learning is making inroads into teaching-learning protocols, although not all open universities have adopted it as the sole method of instructional delivery.

There are still lingering concerns about the inability of distance education providers to penetrate into marginalized communities and about controlling the quality of the educational products delivered to students. We at UNITEM try to encourage participation by the underprivileged and marginalized communities by making the courses affordable and accessible. Our first cohort of about 900 students came from both rural and urban communities, and about a third of those students were female. Interestingly, about 40% of this intake is unemployed. Our 12 student support centers are distributed throughout the country in an attempt to bring as rich an educational opportunity as possible to the students where they are.

3 Major Issues and Challenges

Beyond issues of accessibility there are still impediments to be overcome before we can transform distance education into e-learning. Let's consider

¹⁶ Tam, S.W. 1998. Developing countries and the future of distance and open learning in the twenty-first century. ICDE-SCOP Meeting, Queensland. Sept.1998

¹⁷ Daniel, J.S. 1996. Mega-Universities and Knowledge Media: Technology Strategies for Higher Education. Kogan Press, London

¹⁸ Dhanarajan, G. 2001. A social good or another social divide? International Conference on Learning and Teaching Online. Guangzhou, South China Normal University, Guangzhou. January 2001

three particular sources of concern: technological, commercial and pedagogical.

1. Technological Issue

First, there are issues surrounding technology. Recent years have witnessed the rapid development of computer networks, escalating processing power of personal computers, and advances in magnetic storage technology. These technological advances have made the computer a dynamic force in distance education and open learning.

Teaching and learning in a distance mode is dramatically enhanced when interactivity is mediated via computer technology. However, the advantages of e-learning could not be fully realized by all nations in the Asia-Pacific region until the limitations of connectivity and computer literacy are overcome. There still exists a large divide between the Asian nations in terms of Internet connectivity. For instance, if we take the per capita percent of users of the Internet as an indicator of connectivity, we find three groups: in the most connected group are Singapore with 29.5% Internet users and Hong Kong, which has 25.2%. In the middle group, Korea and Japan each have just over 14% of their population connected. The third group, is also the one with the widest range: Malaysia at 6.9% still is more than five times more connected than Thailand at 1.3%, which is still twice as connected as China at 0.7%¹⁹.

There is still disparity between nations in the Asia-Pacific region in present infrastructure for fast communications. Malaysia, for example, has an adequate layout of microwave, cable and satellite communications within the country, but the cost of using all these support systems is still prohibitive when they are to be used for distance education.

I am of the opinion that these interlinked problems of connectivity and digital literacy will be resolved over time with better living standards and the IT-savvy younger generations who would be the new consumers of e-learning.

¹⁹ Nippon Keizai Shimbun, Aug 26, 2000.

2. Commercial Consideration and Competition Issue

Besides the issues of technology, there are issues of competitiveness. Universities worldwide have been challenged to adapt to a more market-oriented, competitive, and consumer-focused environment. Increasing demands are being placed on them to educate and train a new workforce that is capable of handling an exploding knowledge base. In this case traditionally, the public universities have been seen as the providers of higher order knowledge and skills, whether face-to-face or in distance learning modes. With the exponential growth of online capacity, this is no longer the case. The entry of private colleges and universities responding to the demands of the new workforce to obtain "just-in-time" up-skilling education, i.e., as providers of distance and open learning, has encouraged a healthy competition to deliver quality-assured educational services to where they are demanded – within a country or abroad.

This also translates into intense and stiff competition between the traditional providers of knowledge and the new players. Bradley²⁰ cited Merrill Lynch May 2000 Report on the Knowledge Web, "First, there are 84 million students enrolled in higher education worldwide. Coupled with the projection that, by 2003, 65% of web users will be international, (this) shows us that the global learning market is enormous." He also captured the fiercely competitive aspect of online learning when he said: "Creating an effective, engaging online course can cost up to \$1 million, with entire programs costing tens of millions of dollars. For these reasons and others, a growing number of colleges and universities are seeking the help of private e-learning solution providers." It appears, therefore, that only those traditional providers (and countries) with large enough financial resources to provide learner-centred education for the masses will survive and prosper. The less well-endowed providers will end up providing barely adequate educational services to those who cannot afford anything else. What then is the solution to this worst-case scenario? How do we manage this impending situation when we do not have the monetary

²⁰ Bradley, D. 2000. Distance Education: An Open Question? IDCE Regional Conference on Distance Education. An Open Question? URL: http://www.com.unisa.edu.au/cccc/papers/keynote_address.htm

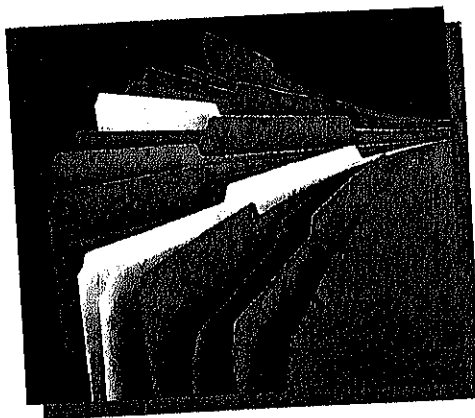
Chapter Nine

Numeric Filing

Learning Objectives

After completing Chapter 9, you will be able to do the following:

1. Define **numeric filing** and explain when the numeric filing method should be used.
2. List advantages and disadvantages of using the numeric filing method.
3. List and describe the components of a consecutive numbered filing system.
4. Describe and use consecutive numeric filing procedures.
5. List advantages and disadvantages of consecutive number filing.
6. Describe and use terminal-digit filing.
7. Describe and use middle-digit filing.
8. List advantages and disadvantages of terminal- or middle-digit filing.
9. Define and explain **chronologic filing**.
10. List types of chronologic files.



capacities to develop the highest quality educational content? Collaboration with relevant organizations represents a possible solution.

Universities can no longer afford to alienate themselves from the social and economic influences beyond their ivory towers. Distance learning providers (for online learning especially) evidently are forming alliances with venture capitalists and corporations in their search for a pragmatic solution to support their efforts to offer educational qualifications, both degrees and professional certification and licensing, on a worldwide scale. For example, we have seen the formation of several consortia of educational institutions and private organizations like the Open Learning Agency (drawn from among the premier universities of Canada), Unext University (mainly Ivy League and top research universities in the USA), Cardean University (which numbers Nobel Laureates among its advisors), and Scottish Knowledge (drawn from among the premier universities in Scotland). Likewise, UNITEM is a consortium of 11 public universities in Malaysia. Of course, collaboration, however, entails numerous knotty problems of quality assurance as well as legal and cultural implications which will have to be addressed.

3. Pedagogical Issue

There are also pedagogical issues. Traditional universities have been at least initially reluctant to indulge in distance learning because of concerns about the worrisome absence of face-to-face interaction and the question of equivalence of the education given. However, the experience of many in distance learning has indicated that, if properly administered and managed, there is no significant difference between the outcomes of teaching-learning in traditional face-to-face and distance learning modes.²¹ In fact, there are indications that online and distance learning, especially at the post-basic and graduate levels, actually enhances educational outcomes in some disciplines of study. In online programmes in Social Work, Humanities, Criminal Justice and Nursing, for

²¹ Smith, C. Grech, C. & Gilham, D. 2000. Online delivery of professional practice course: An opportunity to enhance life long learning for Asian Nurses. IDCE Regional Conference on Distance Education. An Open Question? URL: http://www.com.unisa.edu.au/cccc/papers/refereed/paper45/Paper45_1.htm

example, it was found that the students appeared motivated and creative, actively pursued knowledge, and were eager to disseminate findings to others.

Other Issues

However, both students and academics have voiced some uneasiness about other aspects of e-learning. These include:

- the technological dilemma relating to hardware and software difficulties and problems connecting to the Internet
- the need to read voluminous amounts of lecture material online in the face of a preference for hearing lectures,
- the lack of non-verbal cues and resulting misunderstandings during communications,
- the lack of the university environment where exchange of information and ideas could occur more naturally in social settings, reflecting students' need for camaraderie, and
- increased academic load in marking and commenting in writing on assignments²². Yet another significant complaint from the academics is that the time burden placed on them for development of online teaching materials is very heavy indeed, and yet that time spent does not count toward their evaluation for tenure.

In our wandering through some countries of the Asia-Pacific region, we have found a variety of configurations of challenges to distance education and in particular to e-learning. We have also seen a variety of responses to those challenges. I am, however, optimistic about the future of e-learning. This is only a transition stage. We can be sure that eventually e-learning will come into its own by meeting the challenges of technology, management and pedagogy and matching the education we offer to the needs of the larger society.

²² Womack,D, Lyons, A. et al. 1999. Connecting points: asynchronous communications. Computers in Nursing 17(5), 212.