1996

International networking: education, training and change

Nerida F. Ellerton (Ed.)
You may print or download ONE copy of this document for the purpose of your own research or study.

The University does not authorize you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following:

- Copyright owners are entitled to take legal action against persons who infringe their copyright.
- A reproduction of material that is protected by copyright may be a copyright infringement.
- A court may impose penalties and award damages in relation to offences and infringements relating to copyright material. Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.
INTERNATIONAL NETWORKING:
EDUCATION, TRAINING AND CHANGE

Edited by Nerida F. Ellerton

Conference Proceedings
International Networking: Education Training and Change Conference
20–23 September 1994, Perth, Western Australia

Sponsored By
Ansett Australia
Department of Employment, Education and Training
Education Department of Western Australia
UNESCO

Department of Commerce and Trade
Edith Cowan University
Higher Education International
Western Australian Department of Training
# Table of Contents

## Keynote Addresses

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opening Address</strong></td>
<td>1</td>
</tr>
<tr>
<td>Dumitru Chitoran</td>
<td></td>
</tr>
<tr>
<td><strong>Official Opening</strong></td>
<td>4</td>
</tr>
<tr>
<td>Delivered on behalf of Richard Court MLA</td>
<td></td>
</tr>
<tr>
<td><strong>The Impact of International Networking on Education and Training</strong></td>
<td>6</td>
</tr>
<tr>
<td>Charuni Sutabutr</td>
<td></td>
</tr>
<tr>
<td><strong>Cultural and Educational Networking in a Changing World</strong></td>
<td>9</td>
</tr>
<tr>
<td>Wang Gungwu</td>
<td></td>
</tr>
<tr>
<td><strong>Confronting the Challenges of Globalisation</strong></td>
<td>15</td>
</tr>
<tr>
<td>Bienvenido F. Nebres, S.J.</td>
<td></td>
</tr>
<tr>
<td><strong>Models of Universities in the 21st Century</strong></td>
<td>23</td>
</tr>
<tr>
<td>David Phillips</td>
<td></td>
</tr>
<tr>
<td><strong>New Communications Technologies and Global Learning: Challenges for</strong></td>
<td>30</td>
</tr>
<tr>
<td>Education and Training</td>
<td></td>
</tr>
<tr>
<td>John Daniel</td>
<td></td>
</tr>
<tr>
<td><strong>Cultural Sensitivities in the Context of Educational Change</strong></td>
<td>38</td>
</tr>
<tr>
<td>Nerida F. Ellerton</td>
<td></td>
</tr>
<tr>
<td><strong>UNESCO Symposium: Globalisation and the Role of UNESCO</strong></td>
<td>47</td>
</tr>
<tr>
<td>Dumitru Chitoran</td>
<td></td>
</tr>
</tbody>
</table>

## Cultural and Educational Networking in a Changing World

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Higher Education and Strategic Institutional Networking in Europe</strong></td>
<td>55</td>
</tr>
<tr>
<td>Maurits van Rooijen</td>
<td></td>
</tr>
<tr>
<td><strong>Multi-culture Education:</strong></td>
<td>59</td>
</tr>
<tr>
<td>Imperative for Educating Citizens of the World</td>
<td></td>
</tr>
<tr>
<td>Lee C. Lee</td>
<td></td>
</tr>
</tbody>
</table>
The Rapidly Changing Economic Frame of Mauritius and its Education
Sheila Bunwaree

The Administrative Implications of International Education
Dick Audley

The Future of Knowledge and Subjectivity in Higher Education
Matthew Allen

Partnerships in Training Through National and International Networking
Jeff Gunningham

Exporting Tertiary Education From Australia
Gus Hooke

Education, Training and Change
Simanhadi Widyaprakosa

AARNet and ERNEY: An Era for Fostering International Academic Research
Amit Rudra

Structuring a Delta MBA Program—Meeting Changes, Challenges and Training Needs in South China
Peter P.F. Chan

University Networks in International Cooperation
Jim Shute

Simulation of Classroom Teaching for Distance Education Students
Mehryar Nooriafshar

Distant Learning PhD Through E-mail
Hanizah Abd. Hamid and Sahol Hamid Abu Bakar

Stopping the Ears While Trying to Steal the Bell: Instructional Design Practices in Distance Education and the Post Modern Debate.
Jane Widdess

World Wide Web Based Distance Learning
Joanne Ng and Andrew Marriott
INTERNATIONAL NETWORKING: EDUCATION, TRAINING AND CHANGE

The Challenges of Globalisation

Asian Business Culture and Practice: A Portrait of Diversity for Cross Disciplinary Teaching
Chris Groom, Fran Siemensma and Peter Demediuk

To See Ourselves As Others See Us
Bridget Swearse and Jane Raybould

We Went to Teach, Now They Come to Study
Bob Finlay

Sinking or Swimming in the Multicultural Sea
Patricia Kelly and Tania Aspland

Internationalisation of Australian Education: The Regional Mission
Roger Peacock

Changing Perspectives in the Twinning Concept: A Look at Future Needs and Directions
Jayakaran Mukundan and Inderbir Nanra

International Human Service Education in South and East Asia
Rod Underwood and Mike Lee

The Asia-Pacific Higher Education Network—A UNESCO UNITWIN Network for the Region
John Scutt

Networking with the Recipients of Educational Programs
Leslie Williams

Self Employment and Entrepreneurship Development Program in Indonesian Universities:
Experience of Merdeka University, Malang, Indonesia
Fatima Abdullah

Prospects of Developing International Student Networking in Brunei Darussalam
Serudin Tinggal and Sim Wong Kooi
### Educating for Cross-Cultural Understanding
Heather Bigelow, Murray Ainsworth and Quentin Willis

... 193

### Technology Transfer and Professional Training Through Masters Program in Malaysia
Hanizah Abd. Hamid and Sahol Hamid Abu Bakar

... 197

### COMMNET: A Prototype Communications Data Network in Papua New Guinea
Noel Colin Mobiha

... 200

### Using AARNet to Broaden the Scope of Nursing Education
Amy E Zelmer, Leonie Williams, Jillian Brammer and Bruce Young
Jan Schmitzer, Kathryn Roberts and Adrian Jackson

... 204

### Hyperlogic and the University Classroom: Pedagogy in the Electronic Age
Darren Tofts, Kitty Vigo and Josie Arnold

... 207

---

**Models of Universities in the 21st Century**

### The Role of Scientific Research in Vietnamese Universities in the Challenge of Education Change
Dang ung Van

... 215

### Serving the Educational and Research Needs of a Rapidly Developing Vietnam: An Important New Market
Arthur Kavooris

... 219

### Models of Universities in the 21st Century: The Philippines’ Challenge
Lily Rosqueta-Rosales

... 223

### Challenges and Choices: A Skills Enhancement Program for Indonesian Nurses
Bronwyn Jones

... 228

### Lighting the Fire: The Role and Function of Universities and Other Higher Learning Institutions into the 21st Century
Zena Burgess and Jan Hastings

... 232

### Gender and Educational Change in the University: A Model for the 21st Century
Jennifer Lindley and Jeanette Learmont

... 236
Strategies to Overcome the Tensions Between Information Technologies and the Individual
Mohini Singh, Dawn Watson, Stephen Burgess, Andrew Stein and Helen Bull ... 240

From Tension to Creative Application: Technology and the Naive User
Anne Russell ... 246

Academic Industrial Collaboration: Partnership for the Future
Shashikant D. Karnik ... 250

Multimedia for the Coal Mining Industry: Enterprise Partnerships for Sustained Academic/Industry Collaboration
Michael Crock ... 254

The Role of Telecommunications in Meeting the Demand for Education in ASEAN Countries
Zainal-Abidin Mahani ... 259

Responding to the Challenges of Change: Restructuring Educational Organisations—A Case Study
Paul McCarthy and Patrick Merrick ... 267

New Technologies and Global Learning: The Challenges

Craig Standing and Mark Campbell Williams ... 275

Technologies for Networking: From Packet Switching to ISDN
Khairuddin Ab-Hamid ... 281

The Effectiveness of Multimedia: CAL at a Primary School in Malaysia
Ismail B. Abdullah, M.H.B. Selamat and N.B.M. Pahri ... 286

Networks, Empires and Open Learning
David R. Jones & Anthony L. Pritchard ... 292

Shifting Priorities in Open Learning?
Robert de Young ... 295
Networking Self-Access Language Learning: An Evaluation of an Emerging International Scene
Terence T. T. Pang

Innovation in the Use of Electronic Mail for Open Learning
Hilary Capper

Open for Business ... Using Commercial Television to Deliver Vocational Education and Training to Small Business Operators in Australia
John Kirk

Putting the Jigsaw Together: Delivery and Effective Use of Information at the Desktop to Improve Teaching, Learning and Research
Brian Cook

Multi-skilling the Information Worker
Helen Bull, Stephen Burgess, Mohini Singh, Andrew Stein and Dawn Watson

International Networking for Language Teaching Research: The Ultra Project
Ian G. Malcolm and Alastair L. McGregor

Convergent Electronic Networking: An Interactive Delivery System for Distance Education Students in Australia
John M. Renner

◆ ◆ ◆
Foreword

The decision to inaugurate the International Networking Conference to focus on education, training and change was a direct result of the Higher Education/UNESCO Conference which was held in Cyprus in 1992. I was given the opportunity of delivering a paper on some of the problems associated with managing an internationally respected performing arts institution in the most remote capital city in the world—Perth, Western Australia.

Upon my return to Perth I broached the notion of conducting an international conference in Western Australia which would highlight issues and problems relative to higher education programs in Australia, Asia and the Indian Ocean rim. With the support of UNESCO, the University’s Vice-Chancellor, Professor Roy Lourens, and the Deputy Vice-Chancellor, Professor Brian Lawrence, agreed that the project was one that would be a significant one for Edith Cowan University. They provided substantial financial and moral support.

A remarkably committed and enthusiastic committee was established to develop the conference and over the next two years outstanding educators in the field of networking agreed to participate. Dumitru Chitoran, from UNESCO in Paris, agreed to take part in the official opening, as did Wang Gunwu, Vice-Chancellor of the University of Hong Kong. Charuni Sutabutr, from the Institute of Science and Technology in Thailand, agreed to deliver the keynote address and John Daniel, Vice-Chancellor of the Open University in the United Kingdom, also participated.

As new communication technologies and global learning were part of the thrust of the Conference, some of the keynote addresses were delivered via current telecommunication technology. Others made the long journey to Western Australia and the contribution of Professor Bienvenido F Nebres from Ateneo de Manila University in the Philippines did much to add to the significance of the four-day Conference. Over 250 delegates attended.

I would like to express my gratitude to the various sponsors, in particular the Department of Employment, Education and Training and the Department of Commerce and Trade through whose generosity it was possible to include in the Conference a number of significant educators who would not otherwise have been able to participate. Through Australian sponsorship it was possible to bring the Vice-Rector of Hanoi University to Australia and a number of other distinguished educators from India and Asia.

Because the Conference was under the chairmanship of the Director of the Western Australian Academy of Performing Arts, the comprehensive educational program was underpinned by an ambitious performance and entertainment schedule. Delegates were able to see the outstanding work of the Academy in operatic productions, Australian theatre and cabaret performances. For this I wish to record my thanks to the staff and students of the Academy who very successfully ensured that the Conference participants had a clear understanding of the school’s performance excellence. My thanks also go to the organising committee who were able to make the aspirations we had for the Conference a reality.

I trust that the proceedings of this Conference will rekindle the spirit that was established during the four days in Perth from 20-23 September 1994 and sincerely hope that the outcomes of the Conference will have a lasting effect upon the capacity for participants to network with each other in the future.

Dr Geoffrey Gibbs
Chairman
Keynote
Addresses
Opening Address

Dumitru Chitoran
Higher Education Section, UNESCO
Paris

It is indeed a great pleasure and an honour for me to address this distinguished audience. My first duty is to convey to you the warm greetings and best wishes of Mr Federico Mayor, the Director-General of UNESCO and of Mr Colin Power, the Assistant Director-General for Education. I wish to thank the organisers for the invitation extended to UNESCO to sponsor this meeting and to address it. Sincere thanks, on behalf of UNESCO, are also due to the Australian government and to the academic community of Australia for their continuous support in the planning and execution of the Organisation's program in the field of higher education as well as in all other fields of endeavour of UNESCO.

The relevance of your debates for the work of UNESCO is obvious. We hope that the international experience acquired by UNESCO will also be found useful by the participants, and I am looking forward to the UNESCO symposium on Globalisation and the Role of UNESCO which is scheduled for Friday morning when I would like to share with you a few of the preoccupations and concerns of the Organisation with regard to higher education in the world today. More importantly, I am looking forward to listening to your advice and suggestions as to how UNESCO should better perform its role in this field.

UNESCO will soon celebrate its 50th anniversary. Together with the other agencies of the UN system and the other inter-governmental organisations created in the aftermath of World War II, it has been both a witness to and a mirror of the cold war period and of the major world developments during the second half of this century. Like all the other inter-governmental organisations it is faced today with new challenges and new tasks.

In keeping with the mandate entrusted to it within the UN system as the specialised agency for education, science and culture, UNESCO has adopted specific forms of action which it carries out in close co-operation with the intellectual community. UNESCO's founding fathers had a vision of laying the foundations, first and foremost, for a more peaceful, democratic and equitable world through education and by working together. As part of that vision, the development of higher learning and the promotion of research through international cooperation have always been major fields of action of UNESCO.

UNESCO is engaged at present in the elaboration of a comprehensive policy for higher education, as requested by the General Conference as its session in November 1993. The analysis of the situation of higher education today is both a source of satisfaction and of serious concern. On the positive side, mention must be made of its considerable growth. Indeed, for the world of education, the second half of this century will go down in history as the period of the largest and fastest expansion of higher education. Tertiary education has been growing continuously from 28.2 million students in 1970, to 47.5 million in 1980, to 65 million in 1993. Moreover, it is in the developing countries that the increase has been higher. Between 1970 and 1988, the number of students has multiplied eightfold in sub-Sahara Africa, sixfold in Eastern Asia, the Pacific and the Arab States, by four and a half in Latin America and the Caribbean and...
has doubled in Southern Asia. Today, almost half of the students enrolled in higher education are in the developing countries.

However, *inequality of access* to higher education is and will continue to be the major difference between the rich and the poor countries with regard to education. Higher education enrolment per 100,000 inhabitants ranges from over 5,000 in the United States and Canada to only 21 in Tanzania and 16 in Mozambique. The chances for young people in the industrialised countries to pursue higher education studies are four times greater than in a developing country and 17 times higher than in sub-Saharan Africa.

Analyses converge unanimously in emphasising the correlation between higher education and economic development; enrolment ratios in higher education average 51 percent in the OECD countries, compared with 21 percent in middle income countries and only 6 percent in low-income countries. It should therefore not be difficult to make a strong case in favour of higher education, and UNESCO is trying hard to do this. The foremost challenge facing higher education everywhere—namely how to reconcile constantly rising demands on and for higher education with diminishing resources, particularly from public funding—is especially severe for developing countries.

Beset as they are with serious socio-economic and political problems, and bearing the burden of foreign debts, these countries will not find it easy to direct the necessary resources towards higher education. Accordingly, international cooperation and assistance have a vital role to play in overcoming the glaring educational gaps between the North and the South. Universities, by virtue of their vocation, should be ready to assume a leading role in ensuring the universal dissemination of knowledge and in promoting the development of their fellow institutions worldwide. Through inter-university cooperation, it should be possible to offset the trend towards excessive concentration of expertise and to achieve a wider international distribution of academic excellence through a "division of tasks" transcending national frontiers.

This is precisely what your Conference is promoting, using networking as a powerful mechanism facilitated by the fantastic development of new information and communication technologies.

It is significant that the Conference takes place in this part of the world where developments in higher education have been most impressive during the last few decades and in which, according to certain estimates, the numbers of students pursuing studies abroad will exceed the half million mark by the year 2000. In this part of the world, too, the use of new information and communication technologies is very advanced, as evidenced in the first place by the impressive number of students (proportionately by far the largest number, compared with other regions of the world) who are offered access to higher education through various forms of distance education.

The fact that this conference is taking place at a young, highly distinct and very dynamic Australian university has also specific significance. I would like, in this respect, to select three major commitments of Edith Cowan University which are particularly pertinent for UNESCO's work in the field of higher education.

First, its commitment to the advancement of the teaching profession and the awareness of its responsibility for education at all levels. It has been pointed out repeatedly in various analyses and studies as well as at large international gatherings—the last one being the United Nations Conference on Population held in Cairo in June 1993—that *empowerment through education* is the major tool with which humanity can achieve sustainable development. Teachers at all levels in the education system play a key role in this effort. Yet, the condition of the teaching profession has known a marked process of deterioration in many countries, particularly the developing ones. The prestige of the profession must be regained. UNESCO, reflecting the will of its Member States and of the organisations of the teaching profession, is committed to action to achieve that goal. It finds valuable assistance in the work of pursuing the same goal by universities such as yours.

The second commitment of Edith Cowan University, which is very much in consonance with the present concerns of UNESCO resides in your conception of the all-round education of students in which multicultural and inter-cultural studies are intrinsic components. This is very important both for the preservation and enhancement of cultural identities, and for better understanding, tolerance and the respect of others, so much needed in the troubled world of today.

Thirdly, UNESCO is highly appreciative of the broad international perspective of Edith Cowan University. This is testified by the proportionately large number of foreign students on its campus, by its numerous links with higher
education institutions abroad and by the prevailing feeling of solidarity and its readiness to assist higher education needs in developing countries. What better testimony of that spirit than the fact that your Vice-Chancellor, Professor Roy Lourens, will lead, in a few days' time, a delegation of Australian Vice-Chancellors to South Africa?

In the last edition of the World Education Report (1993), UNESCO has expressed its concern about certain trends in international co-operation in the field of higher education which are based on the harsh mechanisms of market competition. Its concern stems from the reality that in this fierce competition, higher education institutions in the developing world are doomed to be forever on the losing side. Admittedly, in its pursuit and advancement of knowledge, higher education involves a highly competitive spirit. Institutions everywhere, including those in developing countries, should be aware of this reality. However, in this as in other spheres it would be wrong, in the long run, to let affairs be governed solely by the competitive laws of the market.

The recently launched UNITWIN/UNESCO Chairs Program is specifically designed to mobilise international co-operation among universities. UNITWIN is intended to develop university networking and other linking arrangements along North-South, South-South and East-West axes with the aim of promoting institutional development and facilitating the exchange of expertise and experience as well as staff and students. The UNESCO Chairs Scheme involves the creation, in partnership with universities and other appropriate bodies, of professorships enabling visiting scholars to provide core expertise for the development of locally based centres of excellence in key disciplines and fields related to sustainable development. An interlocking system of international chairs can provide an important boost to higher education within a given region, and can, in particular, help to promote South-South co-operation. The response to the UNESCO Chairs Scheme has been very favourable and over 70 such chairs and some 25 inter-university networks have been created throughout the world, testifying to the readiness of the academic community to contribute to the global development of higher education.

We rely very much on you for the future development of the UNITWIN project in this part of the world. A recent meeting organised by DEET and the AVCC had exactly that purpose in mind. I hope your Conference will also examine ways and means to promote this UNESCO initiative.

Wishing you all full success in your deliberations, I invite you therefore to co-operate closely with UNESCO.
I am delighted to have the opportunity to be with you today at the UNESCO Conference on International Networking. Apologies for the Premier, who has parliamentary duties. Congratulations on the performance of the Jazz Band.

I congratulate Edith Cowan University for hosting this conference and thank UNESCO for the patronage and support provided to enable this important international conference to take place. I am appreciative of the efforts required to develop an international conference, particularly the difficulties of attracting the range and calibre of the delegates who are here today. I would like to add my welcome to you all and emphasise how pleased I am that the conference is being held in Western Australia.

Of the many themes of the late 20th Century, increasing internationalisation and a heightened global outlook are certainly among the most significant. We live in an increasingly integrated world. The past concepts of isolation, whether geographic, cultural, political or economic, are simply untenable.

A global market place for goods, services and ideas is developing rapidly. What is at issue is not simply the change in perspective, but rather it is the speed at which this perspective is changing. I am sure we can all remember a time when it was amusing to quote the aphorism “the only constant of modern life is incessant change.” It is perhaps less amusing than it once was, though no less true.

The revolution in outlook is very apparent to us all in Australia. In Australia, the need to think internationally is of course particularly linked with opening our economy and promoting international competitiveness. The emphasis has naturally tended to be on developing links with Asia, given our geographic location and the rapidly developing Asian economies.

In Western Australia, the need to think internationally has always been essential, given our distance from the eastern seaboard, our outlook on the Indian Ocean and our significant links with international markets. In recent years, as well as increasing overseas investment and tourism, a considerable strengthening of our cultural and education links internationally has occurred. In the education system, growing emphasis has been put on international dimensions. This can be seen in the increasing numbers of international students wishing to enter our universities, colleges and schools; the promotion of two-way exchanges of students; and the developing links between Australian institutions and overseas universities and colleges. In terms of formal links, Western Australian universities have more than 75 formal international agreements with overseas institutions, including many represented at this conference.

This increased international emphasis in education is an important development for Western Australia. All students undertaking tertiary education will benefit from the internationalisation of the campuses in terms of an enhanced understanding of different cultures, new contacts and a heightened awareness of international work opportunities.

The view Australia has of its place in the world is changing and the education system is reflecting this change. The outlook of the student population, the nature of the curriculum, the increasing international links and the methods of delivery of education are all changing.
It is therefore an appropriate time for Edith Cowan University and Australia more generally to be considering international networking for education, training and change. This conference will examine the role and function of the universities and other institutes of higher learning into the 21st Century and at the same time reflect on the purpose and nature of higher education.

Global networks are a fact. Australian institutions are a part of these networks and wish to develop their links more fully. To do that requires a review of Australia's role in education against an understanding of developing international education and training systems, particularly in our region. This conference covers a wide scope and is an ambitious undertaking. No doubt a considerable amount of time will be taken discussing the latest technologies and their relevance for the delivery of education. The major issues of rapid change, globalisation and technological development must not obscure the fact that education is about learners rather than teachers. I am sure that your conference will be a success if the discussion never loses sight of the fact that, no matter how sophisticated the technology, learning will only be improved when the opportunities are taken up by people—those in rural communities, in isolated areas, in towns, on farms, alone, in groups, in classrooms and in the workplace.

Western Australia is the largest state in Australia and Perth is the most geographically isolated city in the world. Given this background, we well understand the challenges associated with the need to provide appropriately for the different education needs of people in all walks of life and locations.

The mention of international networking conjures up a view of world computer webs and the Internet with its current 30 million users. However, networks are fundamentally linkages between people. They are mechanisms for the exchange of information and ideas. This conference represents an element of a network, and it is interesting that although at least one key speaker will be with you by satellite, most of you have taken the trouble to be here in person. I am delighted that you are.

I now have great pleasure in officially opening the UNESCO Conference on International Networking: Education, Training and Change.
The Impact of International Networking on Education and Training

Charuni Sutabutr
Institute for the Promotion of Teaching Science and Technology
Thailand

It is my pleasure to be invited to this conference on International Networking. It is my honour to be here to deliver the keynote address on a challenging theme: what effects international networking will have on education, training and change, once it is completely established. May I first express my sincere thanks to Dr Geoffrey Gibbs, the Chairman of the Organising Committee for his invitation and to Professor Ken Clements for his kind words of introduction.

As a representative of Thailand, it seems appropriate for me to use the situation in Thailand as an example for our discussion. We are currently setting up our network at the national level. It is a difficult and challenging task because Thailand must also bring her national network in line with the international one. Thailand is a country with strong traditions and culture. And although our education system is centralised, with schools and universities under strict government control, academics and the private sector enjoy the utmost freedom in regulating their computer supplies. To elucidate this freedom, let me show you how many small networks have been set up, independent of the internet. As shown chronologically:

- In 1984: Provincial universities, each with their own network, united to set up an information network, in order to partially compensate for the library service that they needed. Hence, PULINET was established.

- In 1988: The International Development Program Electronic mail was set up at Prince of Songkla University in Southern Thailand, with the help of the Australian government.

Many more small networks followed, until the Ministry of Science and Technology founded NECTEC or the National Electronics and Computer Technology Centre in 1992. It was to take a tripartite approach, bringing together the government, private sector, and universities. By installation of the ThaiSarn Network, academic exchange of electronic mail, online information retrieval and sharing of computer facilities were achieved. NECTEC is now connected to the International Network. Nevertheless, we still need certain local networks, particularly the library service to compensate for costly books and journals, which are difficult to obtain. Hence, the Thalinet is being proposed. It will connect the Thai Library Networking, consisting of state universities in the Bangkok Metropolitan area, with those in the provinces.

- At present, Thailand has two networks connected with the international one. These are the ThaiSarn and NECTEC networks which, as I have already mentioned, comprise the Academic Network.

- I would now like to touch briefly on the National Communication network, also known as the THAICOM Project.

Although the Thai government has spent 19% of the total Science & Technology Development budget on funding research on electronics, computer and networking facilities, the NECTEC has not made its presence felt as
much as THAICOM. This is perhaps because the latter can achieve much more influence on the public, through television and radio programs, which are aired directly to all households. The world seems to shrink into just a small unit. Simply pressing a button on your television set will enable you to witness a live event, such as this past summer’s World Cup Soccer, the World Cup Concert, and of course, the O.J. Simpson Case.

In addition, rare and private matters can be made available through the Internet, such as pornography and erotic literature. As a consequence, we will need more discipline in choosing the programs for our young ones, who in their childhood are not ready for such programs. And here is where education starts to play its role.

Now, we are coming to this big word: Education. How can international networking benefit education? I trust we all agree that “education” should mean an infinite growth and gain, in intelligence, wisdom, insight, and vision. This can be achieved through ingenious ways of thinking, acquiring new knowledge and new understanding. By generating information appropriately, certain objectives can be achieved.

The Internet itself is a new form of education. When you turn on your computer, you might be greeted with something like this:

Welcome to the Internet.
Enter your account number.
Enter your password.

This is understandable to those who know English. But for those who do not, educating oneself in this language is a must to become liberated on the Internet. Here anglicisation comes before globalisation! And only then could we go on to understand the language of international networking. I have to accept this. Looking at my mailing address in Thai, we all realise that the time has already come for more training and change.

What message do the Thai characters convey to you? Some might say: There are many different languages in the world. This is because there are many countries, many cultures and many traditions. Do the Thai characters have anything in common with the English alphabets? This question only marks the beginning.

Despite all of the new adjustments that have to be made, we are happy with the change, because of its enormous impact in relaying useful information for a better life.

I should like to use health education as an example. The Internet has an extremely important role in health education. It is also practical, for example, when we travel extensively. Inhabitants of the cold climate region may plan to spend their vacation in the tropics. Without knowledge of drug resistant malaria, they may arrive happily with outdated medicine prescribed by their family physician, only to discover that the medicine offers no protection. Internetworking in preventive and tropical medicine could save one’s life when the physician or patient can check the World Health Organisation’s network about an appropriate prophylaxis. A successful health education program will lead to prevention of infectious diseases.

In Thailand, the campaign against liver fluke infection was achieved through personnel networking by the Ministry of Public Health. This parasitic infection is acquired by eating raw fish contaminated with the infective stage of the fluke. Although this dish is a popular gourmet delight of the north-east region of Thailand, the Ministry has achieved a reduction of prevalence from 90% to 65% through health education. Treatment with antihelmintics alone would not reduce the prevalence because of the re-infection, which would occur if the locals did not refrain from eating raw fish. This task was achieved by numerous tactics and extensive campaigning to educate the public. Imagine how much faster and easier it would be to dispatch the important information with the help of the Internet.

In an era of globalisation we all have to be responsible for the planet we live on. International Networking will give us basic information that we can use to shape our mode of living. If one chooses to be environmentally conscious, one will not need to take to the street and campaign. On the other hand, one can obtain information on key issues directly from environmental scientists. There are so many do’s and don’ts that we could join in on. For example, avoiding the negatives such as exploiting the Amazon and disposal of toxic wastes, and following the positives such as the green peace movement and the earth summit declaration.

A challenging process, that needs to be worked on, is the setting up of an international network in education and training. At the present, there are several training programs jointly organised by a couple of countries. Ronpaku, for example, is a program for training graduates at the PhD level in Japan and other countries. The Mahidol University–University of London “sandwich” program to train young scientists in both Thailand and Great Britain is another example. In the programs, candidates
make at least two trips between these countries in order to fulfill the Program’s requirement.

An example of the time spent for a dissertation is that of Dr Pilai Poonswad, on Ecology of Hornbills in Khao Yai National Park in Thailand, under the Ronpaku Program. Dr Poonswad carried out her field work in Thailand, collected field data for several months, then travelled to Osaka, Japan, where she analysed her data using the facilities of the University of Osaka. Information from the database in Osaka was also used. After two months, the candidate came back to Thailand to do more fieldwork. Her Japanese adviser has also visited Thailand in order to help her with the database analysis. Six trips were made altogether before this candidate had completed her degree.

An international network in education and training, or a model of an Internet-based university in the 21st century, seems to be the right situation arising from such joint training. We could go as far as awarding degrees through Internet correspondence!

To initiate an international network in education and training, we must set up mutual or complementary curricula. A conceptual framework and guideline on global networks should be developed along with these activities. Exchanging of curricula, resource materials, and resource personnel between universities must be increased. Successful implementation of such international strategies depends on the principles and policies which govern the activities and operations of the network. A key institution must be available, to closely monitor the development of the programs, and to support them financially. By having curricula, courses and teaching materials available on the network, larger target groups would gain benefit from this information, generating a wider range of participants. Universities and institutions of higher education can also interact directly with high schools or other secondary levels of education, in order to link their academic standards and methods of teaching. Especially in Thailand, where a student’s high school career culminates with university entrance examinations, this will result in good preparation, and a smooth transition to students for entrance to the universities.

Within the next few days, we will be sharing our thoughts, ideas, areas of expertise, and viewpoints, in setting up a functional system on international networking in education and training. Taking into account the existing culture and traditions of each country, our task will be a difficult one, yet I am sure we all share the confidence that the prize will be worth the effort.

◆ ◆ ◆
Cultural and Educational Networking in a Changing World

Wang Gunwu
The University of Hong Kong
Hong Kong

Let me begin by saying how pleased I am to be part of this exciting exploration of the many new aspects of international networking. You have heard in the keynote address by Professor Charuni Sutabutr, I understand, a broad survey of how important these are to education and training, and you will be examining the manifold possibilities of the new technologies that have been introduced into institutions of higher learning. I shall confine myself to a subject very close to my heart, that of building bridges between cultures as a key feature in educational networking. I have long been interested in the problems of cultural change in the context of university education, especially the kinds of challenges facing universities which are expected to provide cultural bridges for their communities.

Having spent the past eight years in Hong Kong, I have become sensitive to the many kinds of what might still be called East-West interchanges which take place here every day. In particular, I have become conscious of the role that The University of Hong Kong itself has played during the past eighty years, and will continue to play, in helping to bring about cultural exchanges. This has led me to think much more about the vital role universities can play in bridge-building between cultures.

I realise that bridging cultures is not a university's primary task. That task is to teach, to transmit knowledge both old and new, to support scholars at the frontiers of science and technology, and to produce educated men and women. Most universities already have a great deal to do with these areas. It is understandable when universities plead that they already have too much on their plates to take on, in any systematic way, the work of providing bridges between different cultures. But bridging cultures, I believe, is a vital part of education, and that task has become increasingly important in a world which is rapidly changing. In particular, I would like to approach my topic today through three related and directly relevant phenomena: the fact that our world is smaller now; and therefore, more accessible; and that we now live in a much more self-conscious world.

Let me begin with the fact that our world now appears smaller. Where culture is concerned, this has meant that certain powerful cultures have come closer together, because each of them had expanded at the expense of others. For example, the modern Western or West European group of cultures (in some contexts, I should refer to its earlier form of Judaeo-Christian culture), and in more specific circumstances, Anglo-American culture, have expanded to many corners of the globe. Others, like Indian or Hindu-Buddhist or Sanskritic cultures, flourished for centuries, but are now contained in more limited areas. Similarly East Asian, or more specifically Chinese, cultures have had considerable impact over large areas. Last, but not least, it is readily acknowledged that Islam in its many linguistic manifestations (whether Arabic, Turkic or Persian; Urdu or Bengali, Malay or Indonesian; also Swahili and other African Languages), or Islamic cultures, have not stopped spreading for more than 1,300 years. As each of these major and dominant cultures expands towards one another, the cultures in between, whether local or tribal, may be regarded as either less developed or insufficiently aggressive to defend themselves.
They may have retained key features of their original heritage, but those which were not distinctive or strong enough tended to be absorbed, transformed or made to disappear.

The result is that each of the now relatively few dominant cultures mentioned has become more populous, and the bearers of each of them crowd closer together in larger and larger metropolises. The pressures of modern living have induced large numbers of peoples to migrate long distances and this migration is producing complex, and often multicultural, societies. Some of the new “national” cultures, such as those in modern migrant nations like Australia, United States, and Canada, and in different ways, Brazil and Mexico, encourage the search for identity among the various minority groups in the community. Older national entities, however, may demand much greater conformity and restrict the variety of cultural choices available to their citizens.

The minority cultures in any national building environment are often under severe threat and can survive only in urban ghettos, or reservations in the wilderness. In many cases, such cultures are better represented in museums than in real life. Some of the great museums of the world, especially the museums of ethnology, educate us about the vast numbers of artefacts and documents once belonging to vibrant and beautiful cultures. A tour of such museums may give everyone the impression of great cultural wealth in the world, but it could be argued that, now that many cultures are no longer independently viable, our smaller world has become significantly impoverished by the loss of these cultures of the past.

What can universities do here? They could, for example, examine and analyse the powerful cultures carefully to see what they consist of, their pluralistic origins, the conscious borrowings from other cultures, the factors that led to their strengths or weaknesses, and their major achievements and failures. Any one of the powerful cultures mentioned earlier, whether they be rooted in Christianity, Islam, Hindu-Buddhist ideas and practices, or Confucian ethics, could be profitably subjected to close scrutiny. This work is being done in the faculties of arts and social sciences in many modern secular universities, mostly by scholars from amongst the original bearers of each dominant culture. But the contributions by scholars from minority groups, who may be expected to acknowledge the superiority of that culture, should not be neglected.

Not all minority groups, however, would concede and accept that superiority. If there are enough of them living as a community, many such communities could try to resist the power of the dominant culture and seek to defend their own weaker or smaller cultures. In a university environment that tolerates diversity and supports the principle of minority rights, much can be done to compare these cultures within and outside national borders. In this way, we can improve our understanding of how such cultures survive and grow.

There has been a fascinating development in the evolution of the modern secular university. There are some examples of historic universities in Western Europe where different Christian and national cultures have long been subjected to critical inquiry, and where one or more of such cultures might be found to be inferior or superior to each university’s own national culture. Others, in modern times, extended such studies to the world the Europeans conquered or colonised, and included the investigation of cultures which lost out to the superior military power of the West. Still others proudly transmitted their ideals of the university to the countries their rulers had subdued.

For a while, their studies of alien cultures had been largely taxonomic. The few scholars in universities who developed admiration for cultures generally regarded by their compatriots as inferior to their own were regarded as eccentric. Their efforts did little to enlighten their countrymen about the richness of the multiple cultures their empires encountered. This was true even of the colonies of Europeans who settled the Americas, Australasia and parts of Asia and Africa. Their universities had begun as extensions, or imitations, of those in Europe. Only during this century have they sought to find their own distinctive identities in their much more multicultural environments.

However, in time, major changes occurred, especially in the English-speaking migrant nations like the United States and more recently Australia. War, trade, migrations, the growth of scientific knowledge plus the fact that technological advances have made the world smaller, all contributed to a new era of enlightenment about the wealth of cultures which many universities helped to promote. This was, of course, still a light refrain to the dominant theme of the wealth of nations. But it transformed many universities from largely nation-building institutions to ones capable of bridging cultures across national borders.

The contrast between the two kinds of institutions is not that great, but the differences
are important. For example, most scholars, each in the name of scientific objectivity, could provide better reasons than mere tradition, or loyalty, to make their people feel great pride in the achievements of their cultures. Some may also have to contend with accusations that their national policies towards minority cultures are actually shameful and are asked to construct defences against such accusations. In addition, those who are bearers of the superior culture may be expected to help develop strategies for the further expansion of their dominant culture and prepare for what may be seen as inevitable conflicts with other powerful cultures. They could certainly assist in selecting what is best for transmission to their students and their communities.

But it is the universities which act as bridges between the different and even competitive cultures which could, with their detached scholarship, do what other institutions are not able to do. They could increase the capacity of the powerful cultures to learn selectively from one another. This could be achieved by consciously studying the cultures of other peoples through the education system, especially in the universities where more sympathetic attitudes and sophisticated methods could be employed. Even better, the scholars could teach humility to the bearers of the dominant cultures, to make them understand how some of the cultures that have lost out actually had refinements which their own powerful ones have lost or never had. How this is presented requires sensitivity and considerable networking by representatives of the various cultures. The more contact they have, the better chance there is for the virtues and strengths of each culture to gain appreciation, and even respect, among those who had started out being alien to its traditions.

The second point, that the world is now more accessible, is simpler. For example, in our region in my lifetime, I have seen the many local cultures change from isolated and mysterious pockets of historical artefacts to rivers flowing into the sea of new national cultures. Indonesia is the most dramatic example. Into the world of Javanese syncretism have come the richness of the Malay language, the vigour of the cultures of the Minangkabau and the Batak peoples, the quality of faith and pride of the Achenese, and the multiple cultures of the Eastern islands. Through a great imaginative leap, they have all come under the national ideal of “unity in diversity” and act now as the building blocks of a multicultural nation. The role of the universities in emphasising that ideal is made easier by accessibility, not only in terms of transport and communications, but also through the cultural and educational networking, which might be termed “networking in one country.”

The contrast with Singapore is particularly strong. As a new nation of migrants, largely from China, but also from Malaysia, Indonesia and South Asia, it can be seen as a microcosm of cultural bridge-building. But it is more than that. Singapore is also the hub of one of the finest economic networking systems in the world, and this shows in the role of the universities there. In their universities, modern scientific culture is easily accessible and has become dominant—so much so that the leaders now have to seek local and regional cultural frameworks to provide variety and challenge. In some ways, Malaysia shares the same challenge, with its many cultures confronting the power of modern economics and technology. It, too, has to find a counter-balance to rapid modernisation by paying attention to the great cultural heritages of the region. Its many different communities are themselves skilled in cultural networking and this is reflected in the varieties of tertiary education the country provides.

No less interesting are the historic nations of Thailand, Myanmar, Cambodia and Vietnam to the north. Their intense rivalries had carved national identities for them earlier than the islands of Southeast Asia. Their continental relations with India and China are matched by centuries of maritime trading connections in both the Indian and Pacific Oceans. But until modern times, their only cultural networking was through religion, especially the varieties of Hindu-Buddhism which made Thailand, Cambodia and Myanmar look westwards, and the Confucianised Buddhism which linked Vietnam northwards with China. It has taken their modern universities, through the introduction of increasingly international outlooks, many decades to extend the networking to other cultures in any significant way.

I have concentrated here on Southeast Asian examples because they have been transformed by both their own multicultural environments and those of the dominant modern West. Further north, China (including Taiwan and Hong Kong), the two Koreas and Japan have been more self-contained. They have approached cultural networking beyond national borders with caution and even suspicion. But over time, their universities, too, have opened out and now lead the way towards the kind of cultural and educational networking common elsewhere.
All cultures in the world are now within reach in one form or another, notably through books and the print media, but increasingly preserved on film, videotape and telemedia, and thus made widely available. In this way, the dominant cultures have had even greater exposure and have tended to expand themselves. Some have become ubiquitous and their influence is almost irresistible because of the power and wealth they control. Each of these is now in a position to impose its values on everyone who is open to the media and other channels of information.

In fact, even the less prominent cultures are more accessible, as long as they have not actually died out. Many of these have had their more striking features recorded for display or future reference. Those which are still surviving today might succeed in this way to fight off fragmentation and decay, and see their peoples regain pride in their cultural roots. But often they could only do so on sufferance as a special kind of protected lumpenculture or relic, the subject of anything from contempt and ridicule to pity and helpless anger. In any case, modern communications and educational facilities can make all cultures, whether weak or strong, much more accessible than ever before to all those who are interested.

The challenge for universities here is to give context and meaning to what is accessible. Cultural networking is not merely for the sake of transmission and communication. It is also to provide opportunities to compare and contrast, to explain and even justify, and ultimately to offer accurate and verified samples of cultural artefacts for judgment. For example, dominant cultures could have their glories, beauties and claims to superiority set out for everyone's admiration. But that is not enough in cultural networking across national borders. A balanced presentation would require that faults and deficiencies are also brought out, such as historical examples of aggression, cruelty and destructiveness. The sophistication that each dominant culture has achieved may be admired, but it could also be exposed for its pretentiousness, and its arrogance could be contrasted to the simple values that can be found in the wide range of other cultures available for study.

Being accessible means that cultures may, in fact, never now be lost. Scholars of the humanities, the sciences and the social sciences (for example, archaeologists, anthropologists, historians, linguists and sociologists, just to name a few) have all helped to ensure it is possible to build bridges between dominant cultures. But they have gone further and extended bridges to the whole range of all the cultures that can show that they still have something valuable to offer the total human experience. The world of cultural knowledge is now much larger. It is available for intensive study in universities. The critical and analytical skills of the scholars can now bring about a much greater appreciation of the variety and richness of what human beings have been able to produce over the centuries.

The third point, that our world is very much more self-conscious, is the most challenging. Cultural contacts were once limited to a few members of the elite, some long-distance traders and, from time to time, the soldiers who were sent out to conquer other peoples. For the rest, cultures were more or less self-contained and taken for granted. The modern world, however, has made people aware of similarities and differences among themselves to an extent never dreamed of in the past. Being thus more aware, people can never be the same again. They could admire themselves more and better understand why they do so; or they could become more critical of their own values and now know why. They are continually, through the print and electronic media and through magazines and books, or through travel or tourism, being introduced to other people's values. And if they do not switch off altogether because of knowledge saturation or indigestion, they could become truly stimulated by the full range of what their own cultures can offer. They could also be much enlightened by the great variety of other people's cultural artefacts now made available to them.

On the other hand, the present high degree of self-consciousness about cultural matters also has its dangers. It could also heighten sensitivities to such an extent that it emphasises ethnic differences and allows extremists and fanatics to politicise the differences to the point of open conflict. Unfortunately, understanding each other's culture does not necessarily mean that deep-seated hatreds are eliminated.

Here is where the universities have the most difficult responsibility. As people learn more about their cultural values and as they affirm their faith and loyalty in what they believe, how can university academics preserve their scholarly detachment in pursuit of understanding and enlightenment? How can they do that in areas of knowledge where truth is not something everyone can agree on? I believe that conscious efforts at bridging cultures are something
universities can do. However, there needs to be careful study of how the bridges themselves can withstand the great pressures put on them. This is particularly true when cultural and ethnic differences surface as more and more knowledge is made available.

The reality is that modern scientific progress has not replaced the deep attachments most people have towards their own cultural artefacts and values. There are no easy formulas here which can be used to brush aside the tribal, ethnic, religious or even national tensions that have emerged in modern forms. I believe that universities must face this reality. Bridging cultures intelligently, with wisdom and courage, is probably the best that we can do to help avoid the possible threat of major cultural conflicts. It is a responsibility that calls for the greatest integrity of scholarship and is one of the strongest challenges to the future role of universities I know.

I believe it is true to say that one has no idea of the representative nature of one’s own experience if one has only one’s own perspective to go by. The only way to make that perspective meaningful is to see it from a different perspective. The more you understand another culture, the more you understand your own.

The somewhat sober thoughts outlined above have been inspired by what I have seen some universities achieve in my own lifetime. Certainly, if I may take my present university as an example, The University of Hong Kong has in its own short history of eighty years done its fair share in this task of bridging cultures, notably in bridging the differences between two of the dominant cultures I mentioned earlier, that is between Chinese and Western cultures. This had been clearly stated as one of the goals of the university when it was first founded in 1911. It was inspired by the challenge to mesh two cultures in one institution and build modern education for Hong Kong around the two. This has become even more strikingly important because Hong Kong has become of the great cultural crossroads of the modern world during the past three decades of rapid development.

But there is now an even greater difference. We now have the capacity to reach out to more than the two dominant cultures of China and the West. Educational networking technology has been matched by the recognition that bridging cultures is not only possible but also desirable. You are probably aware that the university has brought to Hong Kong those practical skills and knowledge that are in great demand through the use of distance learning methods world-wide. But I would suggest that we have gone somewhat beyond that. We have become more conscious of what we are doing, and can see better how much more we can do. We are ready to ask what new ways our networking experiences can be used to fulfill our role as modern cultural bridge builders.

I have merely used The University of Hong Kong as an example of an early effort to do this consciously. The scope for closer international academic interchange between universities through cultural networking is now so much greater. A few obvious areas come to mind. In the fields of language and linguistics, in fine arts and the whole range of creative expression, in legal and political systems, in health and medical care and in agriculture, there are immense opportunities for mutual exchange of ideas and experience. Even in business practice, there is increasing sensitivity about cultural values. For example, sensitivity about Confucian ethical values is needed now that some East Asian developing countries have succeeded better than others in adapting to modern economic demands.

Already, there are many “internationalists” among university communities and staff, who appreciate interchange with colleagues in different countries because it widens their perspectives and at the same time produces for them new ideas and ways of approaching problems. University lecturers in leading research fields have long co-operated and continue to do so in different countries. They are already creating pools of information where the sum total becomes greater than the individual parts and where the knowledge is shared to the greater benefit of all.

We must offer our teachers and their students the opportunity to place their work in a global context and make the learning process a two-way one across a wide variety of disciplines. This is where educational and cultural networking on a larger scale is a major step forward in make such educational processes natural and normal to everyone concerned. To further this process and involve different cultures to a greater extent than at present, it is essential that universities continue to become more international in their outlook, and provide essential linkages between communities.

The role of building cultural bridges has, of course, been one which our Asia-Pacific region has been concerned with for many years. It is a region of many indigenous cultures. It is one in which dominant cultures from India, China, and
the Middle East had begun to penetrate for centuries. More recently, some of these dominant cultures, especially those from the West, have been strengthened by modern science and technology and great economic power. In one sense, this is progress in acquiring modern civilisation. In other ways, however, the success of modernisation is a major challenge to the survival of distinct local traditions in many cultures.

The last few years have taken us closer towards what has been called the Pacific 21st Century, when Pacific Rim countries truly get into their economic strides. In this dynamic environment, the universities in the region can certainly do a great deal across national boundaries to help bring the different peoples closer together through a greater understanding of their respective cultures. I have earlier given examples of changes in a number of East Asian countries where universities have begun to open up to global influences. Two other examples from the Pacific region provide both a contrast and a comparison. They are Australia and the United States. Both are countries with populations formed of peoples from all over the world. We have recently seen how their universities have expanded their curricula to include non-Western subjects and courses which will give them greater insight into Asia and the Asian mind. The growing availability of such courses on different cultures is an indication of their importance.

At the same time, it is also a fact that there is a section of opinion in the universities of both countries which stresses the importance of retaining a core of subjects pertaining to Western cultures which are regarded to be at the very heart of their teaching and research. I have sympathy for this point of view. Plainly, no matter how adventurous we are in introducing new subjects which bridge the cultural divides, there must be an academic core which relate primarily to the culture and nation in which it is taught. Only in having an understanding of, and faith in, one's own culture can one confidently study the cultures of others. Asian universities, too, would have to face the same problem, and can each be expected to emphasise its own core culture, the value system which preserves and adds to their own culture and heritage. Otherwise, our universities would simply encourage a sort of cultural rootlessness through which each distinct cultural identity would be in danger of being eroded away.

In this era we are seeking a worldwide transformation of society which is as great as the one which marked the change from an agricultural to an industrial society. It is now a society where gains through conquest have been replaced by what has been described as enlightened global self-interest. This global self-interest has immeasurably deepened the connections between countries and their peoples, but would still need to be based on secure core identities of the countries so engaged.

On both sides of the Pacific, in both Australia and the United States, the universities are wrestling with this problem. As they are both countries made up of people from so many different cultures, their universities would seem to have greatly more difficult tasks when compared with those operating in the surviving traditional cultures of individual Asian countries. But in the global village the world has now become, the gap between both groups of universities is no longer large. The compelling need is for all universities to foster a more international and less introspective outlook, in order to lessen the impact when the world's myriad cultures move more closely together. The kind of bridges universities have to build are not mechanical achievements. The processes require care and sensitivity. If successful, however, they will extend the imagination, and help us all appreciate the value, dignity and creativity of the cultures humankind has formed.

And if all of this could be made easier by the new networking technologies—making contacts that are more direct and personal—so much the better. I hope that my talking to you in this way has enhanced the points I have been making about cultural bridge-building.

◆ ◆ ◆
I would like to begin by thanking the Conference organisers for their kind invitation for me to address this important and seminal gathering. Many of us have been involved in regional cooperation and networking over the past decades. We are also aware of the gathering momentum of globalisation in the business and economic world. But for me this is the first time that I am involved in a conference addressing these trends in the context of our academic world.

The topic given to me is Confronting the Challenges of Globalisation and I would like to begin by looking at the challenges as our universities are experiencing them. What are the symptoms of this phenomenon in our academic lives?

University-felt Symptoms of Globalisation
In the Philippines which, like the United States, has a large private college and university system, whose finances are tuition-derived, the first area of impact that comes to mind is the rise and fall of student enrolment in courses depending on the world job market:

• Ten years ago there was great demand for nurses, doctors and other health workers and so enrolment in these fields increased greatly. Then the U.S. recession cut down job opportunities and enrolment declined.
• Overseas job opportunities have increased in the maritime industry and both local and overseas jobs in computer-related fields. New institutes and courses have opened up in these fields.
• Enrolments in electrical and electronic engineering are up. In mechanical and chemical engineering they are down.
• In certain areas like information technology and human resource development, the structures of the more established universities do not allow for rapid response to changing demands. Thus specialised institutes have arisen, challenging the usual structures of universities and colleges.

Globalisation is challenging universities to respond effectively to the changes and mobility in the world job market. In certain fields, the challenge is whether the university is the appropriate structure for the education and training needed.

1.2 We are experiencing great changes in the culture and life of our youth. A study done on Filipino youth by a marketing research firm, McCann-Erickson, notes the following:

• Only two-thirds of 12 to 21 year olds are living with both parents. In addition to single parents and marital break-ups, a major reason is the global workforce: the number of Filipinos working abroad.
• Whether temporary or permanent, parental absenteeism is a reality that has led the youth to turn to their peers not just for friendship and companionship, but for nurturing, intimacy, security and guidance.
• The other surrogate "parent" is media. To quote one adolescent "Sometimes I feel that music is my only friend. For example, if I have a problem, it is music that answers me."

• Recently in assessing lower student performance on standardised tests, we wondered whether part of the problem is that we are testing students who now have different ways of accessing and processing knowledge.

• We have to make more provisions for Filipino students who have spent part of their schooling in different parts of the world and we are getting a larger number of students from overseas.

Universities are facing the challenge of new cultural and cross-cultural situations, brought about by changes in technology, family, community and society, and by a growing workforce of regional and global nomads.

1.3 Our universities are at different stages of the information technology revolution. Some are just beginning to computerise. Others are moving into electronic networking. A few are looking to full utilisation of information technology.

But we realise that the technology is turning out to be the easier part. The cultural and human interface is much more difficult.

• For example, we have not yet integrated the calculator into the teaching of mathematics at elementary and secondary levels. Not because of the cost of calculators, but because the changes demanded in books, exercises and classroom delivery are more difficult than we thought they would be.

• There are countless pilot projects on how to teach calculus with modern software. But it is not yet clear where we are on the matter.

Universities are challenged to transform the world of teaching, learning and research in the context of the information technology revolution. The most difficult challenges lie in the interface between technology and culture.

But how do these add up to the challenge of globalisation?

Globalwork: Faultlines in the Global Workspace

We can see this more clearly when we scan the literature in the business world. More than Academe, business and industry has been confronting these trends as components of the phenomenon of globalisation. I would like to draw from one book which I have found particularly helpful: Globalwork: Bridging Distance, Culture & Time, by Mary O'Hara-Devereaux & Robert Johansen (1984) of the Institute for the Future.

They use the imagery of shifting continents and fault lines to describe what we are experiencing and they situate global trends in the business world as coming from four emerging fault lines (See Figure 1).

The Global Consumer

The force here is due to an emerging middle-class consumer group in the so-called third world. It is projected that these regions, which "today claim around 18 percent of the global consumer class (will) increase their share to one-third or 110 million households by the year 2010" (O'Hara-Devereaux & Johansen, p. 7). "This dramatic expansion has served as the engine of global economic growth, setting off a competitive scramble throughout the developed world that has forced hungry corporations to reinvent themselves as networks, alliances and partnerships with a global reach." (O'Hara-Devereaux & Johansen, p. 5). The book makes special mention of ASEAN, which has become the United States' fifth largest export market, following Canada, Japan, the EC and Mexico. In my part of the world, one of the most visible signs of globalisation, much like the flags of conquering nations, are the shopping malls emerging even in relatively remote parts of the nation. They carry the same brands and have created a whole new activity called "malling."

Is the rising middle class also presenting new markets and new challenges for universities?

To some degree, yes. Australia has been promoting Australian education in different parts of Southeast Asia. Universities in the Southern Philippines are discussing how they can serve as educational centres for the newly emerging East Asian Growth Area (Mindanao, Sulawesi, Sabah, Brunei). Offshore MBA
programs abound in Southeast Asia.

A rising middle-class is also seeking better educational opportunities for themselves and their children. And they are willing to pay for it. Special schools and educational institutes, preschool, grade school and high school, as well as business and computer schools, are emerging to meet this demand. Some of them actually set themselves up in the shopping malls.

The Global Corporation

"The second major fault line is in the organisation of work: the structure of the corporation. For two hundred years, ever-larger corporations have dominated business activity. Now, as the old technologies that served them and the old markets that they served change almost overnight," (O'Hara-Devereaux & Johansen, p. 12) they find that they are too unwieldy and they cannot move fast enough and change fast enough to compete with newly emerging, smaller and faster challengers.

Some signs of this challenge may be the special schools I mentioned above. They have well-defined niches: computer science and information technology; business and economics; special grade schools and high schools. They offer competition to universities for students and for faculty.

Less visible, but no less important, are the changes happening within universities. Some faculties and disciplines are declining (such as the basic sciences and traditional engineering) and new ones are booming (such as business, electronics and communications, and biotechnology). Universities are being asked to consider whether the traditional division of faculties by discipline continues to be the most appropriate, or whether division according to the market may be more effective. For example, some engineering colleges are experimenting with divisions not along discipline lines (civil, mechanical, electrical, chemical), but a division to address the construction industry, another to address the electronics industry and a third to address manufacturing. The relationships with industry are also changing. We have more faculty who have one foot in Academe and the other in industry; research and development jointly between Academe and industry and
students spending more time both in work and in school.

**Global Jobs: The Fragmented Workforce**

The flip side of organisational restructuring is workforce fragmentation, a phenomenon that includes shorter rates of job tenure, a variety of new types of employment relationships, and increasing cultural diversity in the workforce. (O’Hara-Devereaux & Johansen, p. 20)

*Will the same forces that have brought about workforce fragmentation in industry also affect universities?*

According to Globalwork, the fastest growing sector of Temporary Employment Agencies (so-called “just-in-time employment”) is in the area of highly skilled professional workers. Are we moving towards a day where faculty will divide between a core that remains “tenured” within the university and a large group of freelancers or organised professional groups (engineering associations, business professor associations, language professor associations), who come in to fulfil specific, “just-in-time” needs?

**Knowledge as a Global Product**

Ideas, processes and information “are taking a growing share of total trade in the information economy’s global marketplace from the tradition, tangible goods of the manufacturing economy” (O’Hara-Devereaux & Johansen, p. 29).

*This area of challenge is well known to us.*

Many universities are now playing a larger role in this information economy.

- Some of these technologies/packages may be developed elsewhere and one of our faculty members or departments may obtain the franchise for local adaptation and use.
- As these technologies/packages are developed by universities or university-industry consortia, “they need to be packaged and translated for multiple cultures” (O’Hara-Devereaux & Johansen, p. 30).
- We see the rise of University-based science and industrial parks. We know that all these developments are creating great changes in the organisation and financing of many universities.

**Faultlines in the Academic World**

Beyond these globalisation faultlines noted most strongly in the business world, I would like to note “faultlines” whose impact are more immediately felt in the academic world. The first two have to do with impact on the youth we teach. The third has to do with the specific impact of the information technology revolution on teaching, learning, and research in the university. The fourth is the impact of the growing need for continuing education because of the mobility and change demanded of the workforce.

**Changing Family and Community Situations**

One of the major themes of discussion which I have initiated in my university, which also has a grade school and high school attached to it, are the challenges to us because of changing family and community situations. All over the world, countries and communities are experiencing fragmentation and atomisation. There is a search for “community” everywhere. O’Hara-Devereaux and Johansen (1984) note that “even the workaholic, fourteen-hour-day executives of Silicon Valley are whispering the new buzz-word ‘community’ and puzzling how information systems can help create and sustain it” (p. 419). For many of our students, it is the difference between success and failure, even between life and death.

We are asking ourselves what it means for a university to be alma mater, “nourishing mother,” to today’s youth. We have no easy answers, but we are making a commitment to devote resources to fulfilling this role better.
Changes in the Teaching and Learning of Children of the Electronic Media

We know we are different from our children. We do not understand their music. We find we can study and work most efficiently in an atmosphere of quiet. Research has shown that they often study and work best with music (and not quite Mozart either). Their reading deficiencies bother us. Their facility in the world of computers and images amazes us. But does this mean there is a growing gap between the way we teach and the way they learn? Academe changes slowly. One writer I read long ago noted that five centuries after the Gutenberg Bible and the invention of printing, we still read our lecture notes in front of the class. Or as another put it, our basic teaching methods still derive from the monastic age. The lecture is but a new form of the homily and the tutorial a new form of the confessional. Given the stability of these forms of teaching and learning (stability in the mathematical sense that perturbations coming from new technologies or new philosophies change them only a little), how are we to confront the new learning abilities and disabilities of today’s youth?

We are finding that one impact of the changes in family and community situations and in technology is that the training of teachers at elementary and secondary levels needs serious review. Many of them feel a greater need to understand the world where their students are coming from and the traditional teacher-training programs do not meet these needs adequately.

The Challenge of Information Technology and the Information Revolution

How do we teach calculus and other areas of mathematics in a world of new software such as mathematica?

How do we approach research in areas such as Ancient Greek Philosophers or Scriptures when the texts and all their variants (and perhaps all major commentaries with complete concordances) are available in CD-ROM?

Chess Genius II, after defeating Kasarov, may be making Chess Grandmasters obsolete. May certain fields of scholarship also become obsolete?

How are we to wade through the sea of information coming at us through Internet?

Continuing Education and New Career Demands

One of the effects of the mobility and fragmentation of the job market is that people have to keep going back to school. Adult education used to be a small area of concern for universities. But it is growing and will continue to grow.

Jerold W. Apps in his book, Higher Education in a Learning Society, (1988) poses some of the challenges brought to us by this change in society (pp. 3-5):

1. What adjustments must higher education make to accommodate older students seeking degrees?

2. How can higher education best provide non-credit opportunities for adults who do not wish to study for a degree?

3. How can colleges and universities meet service requests from community, government and industry?

4. How can research institutions best respond to requests from the community for applied research to solve specific problems?

All of our universities and colleges have had to respond in some way to these challenges. The trend of globalisation says that their effects may be profound. Apps (1988) cites some trends to indicate this:

- the appearance of alternative educational providers;
- the blurring of boundaries between what is academic and what is business;
- the blurring of traditional distinctions between teaching, research, and outreach/extension;
- the use of creative financing; and
- the development of special programs for specific populations.

How Do We Begin to Respond to These Challenges?

We are invited to develop new skills in the areas of culture and technology and in the leadership needed to enter the new world presented to us. Two keynote addresses later in this conference will focus on the challenges of technology. I have noted that the papers following my address are in the area of culture and the challenge of change. Thus I will focus my remarks on culture and leadership.

O'Hara-Devereaux and Johansen (1984) has a section on The Computer as Cultural Metaphor,
Figure 2. Computers as a mirror of culture

Figure 3. The five cultural variables in holographic relationship
which may help us visualise the first steps needed in facing the challenges of culture and leadership brought about by globalisation.

The comparison is as follows (see Figure 2.1):

A running theme through the challenges enumerated above is that we are living in multicultural situations. A workforce of “global nomads” means that we have people of different nationalities and cultures working together, either in the same physical space or interconnected in the same cyberspace. Our universities have many different professional cultures: for example, Psychology, Business, Natural Sciences, Medicine and Law.

One measure of cultural divergence is what O'Hara-Devereaux and Johansen (1984) calls context. “High context cultures assign meaning to many of the stimuli surrounding an explicit message. Low context cultures exclude many of those stimuli and focus more intensely on the objective communication event, whether it be a word, a sentence, or a physical gesture. Thus in high context cultures, verbal messages have little meaning without the surrounding context. In low context cultures, the message itself means everything” (pp. 55-55).

The authors show a chart of high/low context by cultures (see Figure 2.3) and high/low context by profession (see Figure 2.4). In our computer metaphor we are in a mix of operating systems, some in DOS, some in UNIX, others in system 7. How do we work and communicate effectively with one another?

There is a culture gap between us and our children ... in our music, in our interaction with books and with electronic media and in our language. Using our computer metaphor, we would like to ask whether these differences are on the level of applications software (relatively easy to bridge) or on the level of operating systems (difficult to bridge)?

How are we to navigate through these multicultural situations? Probably in much the same way as we navigate through different computer operating systems and different applications software.

Just as a DOS system has trouble communicating with the Unix machine, so does the member of one primary culture have trouble getting through to another. Relationships are possible ... but mainly through applications (behaviour) rather than through the underlying assumptions. Even then, misinterpretation of the behaviour and practices of people from other cultures ... glitches ... is a common phenomenon. (O'Hara-Devereaux & Johansen, p. 42)

What do we do when we need to have different operating systems to communicate? We bring in an expert. This need in the global business world has created new categories of global workers. The team from the Institute for the Future that wrote Globalwork is dedicated to helping companies and groups navigate through the new world of globalwork.
As we look at the interfacing challenges that face our schools, we need experts who can help us interface with the children of the electronic media; with the world of fragmented families and longing for "community"; with the promise and perils of the new technology.

We need experts who will help us face the challenge of cultural literacy.

The meaning of this challenge will be discussed more thoroughly in subsequent papers in this conference and so allow me just to stress what I consider to be two axioms in this work.

• AXIOM 1. The more global and multicultural we seek to become, the deeper must be our local and personal cultural roots.

That is, the multicultural cannot supplant the local. It is founded on the local. The new image of the multicultural group is not that of a melting pot, where individual differences disappear into a national mould, but might be that of a mosaic, where individual characteristics remain integral to the reality and success of the group. The focus is then on how the pieces of the mosaic interconnect. If I may use the image of a (smooth) manifold in mathematics, the challenge is to find the appropriate structure or "atlas" that will connect the local parts into a smooth global whole.

• AXIOM 2. The more we interconnect in the world of technology and cyberspace, the more profound must be the quality of our human interconnections and interactions.

While technology is the key enabler of all types of global teams, it remains just that ... links between human beings, not between machines, is the real challenge of globalisation. (O'Hara-Devereaux & Johansen, p.141)

In practice, what are the consequences of these two axioms? First, in developing and searching for leaders/pioneers to help us navigate through new multicultural situations, we must look for and form individuals with strong roots in their own culture. This may not seem obvious at first. But as we look at the 24 year experience of the Southeast Asian Mathematical Society, which is a vibrant multicultural organisation with strong links through East Asia and Australasia, I find that much of its strength is in this quality of its founders. The founding "fathers," Professor Wong Yung Chow of Hong Kong, Teh Hoon Heng and Lee Peng Yee of Singapore and others were pioneers with a regional vision, but with deep roots in their own culture. The strong ties we have forged with Japan owe to the same quality in our Japanese colleagues, notably Professor Yukiyosi Kawada, who initiated the linkages.

If I may philosophise a bit, I believe that one reason why this is true is because our common humanity is not found in least common denominators. We find it only when we are able to penetrate deep into our own culture and find our individual centres.

The other reason is that we can best test reality in local, concrete situations. I find that professional internationalists, who stay away too long from local, concrete challenges, risk eventually losing touch with local reality and then (perhaps surprisingly) from international reality as well.

On the second axiom, we might note that the dominant themes in most Executive magazines focus on technology and human resource management and development. The message is that, as organisations (including universities) seek to network and interconnect, MIS and HRD have to go together.

Where there are good human links and communication in an organisation, technologies like email can enhance and facilitate the ways in which we work together. In a situation where there is a lack of communication or, indeed, miscommunication, email is also likely to enhance the miscommunication. It is like an amplifier, which will enhance quality voice where it exists; or deliver static and noise if that is what is there in the first place.

O'Hara-Devereaux and Johansen (1984) put it well by centring its attention on technology and culture and insisting on their profound interdependence. As the authors emphasise, in the end, the object is human connectivity. "While technology is the key enabler of all types of global teams, it remains just that. It cannot substitute for the human interactions that constitute the real substance of global teamwork. Links between human beings, not between machines, is the real challenge of globalisation" (p. 141).

References


• • •
Models of Universities in the 21st Century

David Phillips
Department of Employment, Education and Training
Australia

Universities like all major institutions in our society are increasingly being required to respond to social and economic changes, which have two important defining characteristics:

- firstly, these changes are taking place at a faster rate than ever before; and
- the nature of these changes is growing more and more complex.

Discussion

The advanced economies of the world are moving into a post-industrial era characterised by the move to advanced technologies and service industries. As Alvin Toffler has argued, we need to add a fourth factor of production—the manipulation of information—to the land, labour and capital triad which economists previously regarded as the building blocks of national economies.

When I was an undergraduate the "global village" was a topic of speculative conversation in the student union bar. Not so many years later I find that I am increasingly living in such a village. Evidence of that reality arises each day in my electronic mail. I read about it in my newspaper every morning. I observe it on my television. It permeates every aspect of my working and personal life.

The rapid convergence of information and communications technologies provides the means by which the post-industrial global village continues to develop and go about its business.

Higher education systems around the world will be caught up in these developments no less and probably more than other social and economic institutions, because their core business is the creation and communication of knowledge.

I have been asked to speculate about models for universities in the 21st Century. I have no crystal ball that gives me any magical insights. But fortunately the beginning of the 21st Century is now not so far away, and most of the key influences on higher education are already apparent.

So rather than try to attempt a definitive description of the university of the future, let me start by trying to identify some of the key internal and external forces which will drive the evolution of universities over the next thirty to fifty years.

While these forces are operating on a global scale, I will try to illustrate my comments with reference to the Australian context.

The forces which I would identify as likely to have the most enduring impact on higher education systems are as follows:

- an increasing demand for information and knowledge and for individuals who make productive use of that knowledge;
- increasing pressure on public investments in higher education, as in all other areas of public expenditure;
- the internationalisation of education as part of the globalisation process I referred to earlier;
- the application of the converging information and communications technologies to the education process;
quality as a competitive factor in higher education; and with heavy qualification; and
demographic change.
I will explain later why I add that caveat. Before I analyse the impact that these forces will have on universities it might be useful if I quickly provide some background on the Australian higher education system, which will be the source of my examples.

Background to the Australian Higher Education System
The University of Sydney was founded as Australia’s first institution of higher education in 1851. The impetus to found universities in Australia was not so much in response to community demand or economic imperatives, but rather to recreate the social order and the traditional institutions of Great Britain.
The coat of arms of the University of Sydney features the Lion of Cambridge University and the Open Book of Oxford.
The early curriculum was a steady diet of the classics to which was added the professional disciplines of the law and medicine. However, on the eve of World War I, Australian universities were beginning to enrol more students in utilitarian, vocationally oriented degree programs which trained students to enter the professions.
Following World War II, the rate of growth of higher education began to accelerate. Between 1957 and 1966, for example, University enrolments trebled and eight new universities were created. This growth in both student numbers and institutions continued into the early 1970s.
The rate of growth levelled off in the early part of the 1980s, but took off again in the late 1980s and early 1990s. This growth followed the implementation of the policy initiatives contained in the white paper on higher education released by the then Minister for Employment, Education and Training, John Dawkins.
It is significant to note that the marriage of the employment and education portfolios, with the abolition of the previously freestanding Commonwealth Tertiary Education Commission, had taken place a little earlier, in 1987.
These reforms not only provided the financial wherewithal to allow a further dramatic expansion of the higher education system, but also brought about a substantial restructuring. For example:

• the distinction between universities and the more specifically vocational colleges of advanced education—the so-called “binary divide”—was removed, establishing a single, highly diverse system of higher education institutions;
• the total number of institutions was reduced from 87 to 39; and
• a number of changes were made to funding arrangements—most notably to secure a financial contribution from students who had been exempt from fees since the mid 1970s.

But perhaps the most dramatic change of all was the rapid shift from an elite to a mass system of higher education. Retention rates to the end of secondary schools more than doubled in a decade. Higher education student numbers grew from 394,000 to 576,000 in only 6 years between 1987 and 1993. Government funding rose from A$3.3 billion to A$4.4 billion over the same period and will reach almost A$5 billion in the current triennium.
These fundamental changes were driven by the same imperatives which were driving change throughout the Australian economy.
In essence, Australia was making the transformation from a commodity and resource-based economy to a post-industrial economy with a more diverse range of industries and exports, operating in open competition in the markets of the world. Education and training reform was—and still is—a critical element in this transformation.
In short, the expansion and development of higher education has become central to our national strategies to secure Australia’s economic and social well-being.
These factors and strategies are not unique to this country.
Clearly what universities do, and how they do it, now and into the next century, will be of vital interest to national governments.
Let me move on then to examine the forces which will be determining what it is that universities do, and how they do it.
The first of these is the increasing demand for information and knowledge—the currencies of the post-industrial age.

Increasing Demand for Information and Knowledge
As nations set about the task of creating the information and knowledge society, universities are uniquely placed to play a central role in:
• driving the transformation; and
• educating the information and knowledge workers of the future.

The transformation is well under way in Australia as evidenced by the growth of its services industries. Currently, the service sector accounts for 20% of Australia’s exports, 70% of GDP and employs 80% of the labour force. For the seven years to 1990–91, annual export growth in services was 16.6% per annum.

The importance of the knowledge and information industries to national wealth will increase with the rise of the so-called “intelligent services.” These are embedded in and add intelligence (and, therefore, value) to services and products.

These arguments will be familiar to you all. They recur in different forms in the economic and social strategies of nations around the globe.

Just as high volume manufacturing technology provided the driving force for growth and competitiveness in the post-war industrial economies, it is the technology of knowledge and information that will be the driving force in the post-industrial world.

For these reasons I can see nothing but increasing demand—from industry and from individuals—for higher education and associated services.

The transformation of the Australian economy is creating an increasing demand for a highly skilled, flexible labour force of information and knowledge workers.

This brings with it quite a change from the old model of workforce preparation in which one achieved a qualification then entered a specific field of employment, never to return to education or training.

In future higher education will need to equip a person to become a lifelong learner; someone who can respond to change; who accepts the need to learn new skills progressively throughout their working life; and who may return to higher education several times.

In particular, our higher education institutions will need to equip their students with flexible, transferable skills to cope with and manipulate information effectively in a wide range of settings, and to make the most of the opportunities presented by the information revolution.

Concentration on knowledge acquisition in specific fields is no longer a sufficient outcome of higher education, if this ever was the case.

Institutions will have to make provision for people to return to a learning environment to update knowledge and skills as a matter of course at various times during their working lives.

This will have significant implications in terms of the variety of settings in which people will undertake higher education. Higher education will inevitably move out of the formal classroom into the homes, offices and workplaces of the country.

Given the increasing sophistication of products and services which will characterise economic growth and social development into the next century, I also see an inevitable increase in demand for the research and development capacities of our universities. We can anticipate a strengthening demand from industry for access to the research and development services which universities can provide—including, critically, the provision of graduates trained in research techniques.

Forward-looking business and enlightened governments will become increasingly aware of the potential to achieve competitive advantage through research and research training.

I must say that some other OECD countries and other countries in our own region are ahead of Australia in this respect. Here the Commonwealth is still by far the biggest provider of research funds with an estimated expenditure of approximately $2.9 billion in 1994/95. Private sector funding for research and development is increasing, but from a low base and no more rapidly than many of our competitor nations.

In the early 1980s, business contributions to R&D amounted to approximately 24% of total research expenditure. By the early 1990s, this had risen to approximately 37%.

This trend will continue and hopefully accelerate with the growing sophistication of our industry base.

Again, these trends are not unique to Australia. Universities in all countries can expect to play a greater role in the provision of both basic and applied research, especially in collaboration with industry.

The increased importance of service industries—especially information-based industries—will also be reflected in higher education course offerings.

People will need new skills for handling new kinds of information in innovative ways. New opportunities are already emerging in the fields of information technology, telecommunications, financial and management services as well as aspects of international law.

And the need for information and
knowledge will not be confined to purely commercial outcomes. Australians, and citizens of all other countries, will become increasingly sophisticated in their demands for access to information services: for banking, shopping, entertainment, recreation and personal development.

Universities stand at the forefront of the technology and training needed to satisfy these demands. In Australia, the first genuine, functioning information super-highway is the academic research network, AARNet. The university of the 21st Century may well exist as much in virtual reality as in bricks and mortar. This is a topic which I will return to shortly.

But there is an important point of tension and paradox to be tackled first.

Despite what I see as the inevitable growth in demand for university services and their increasing sophistication, there will be constraints on the extent to which additional resources will be provided from governments.

This brings me to my second "force" acting on universities: the constraints on public expenditure.

Constraints on Public Expenditure

There has been an expectation in this country that growth in demand for post-compulsory education should be provided largely from the public purse. The Australian government, like many others has responded by directing significant additional resources to higher education.

Within Australia, around 3-3.5% of total Commonwealth outlays are now directed into higher education.

That is a substantial commitment at a time when there is a wide array of competing demands from sectors such as health, transportation, the environment and many other areas, not least of which are the other sectors of education and training.

As is the case elsewhere, these calls for increased resources are being made at a time of tight fiscal policy.

The present Australian government's overall economic strategy is aimed at improving international competitiveness through fostering an economic environment, characterised by low inflation and relatively low taxation and interest rates.

Significant increases in Commonwealth government expenditure would be contrary to this policy which is seen as essential to the fundamental goal of stable and sustainable economic growth.

But such tight fiscal policy presents us with a dilemma in relation to higher education.

International competitiveness will in part be determined by the effectiveness of the higher education system in producing a well-educated and flexible work force and a powerful national research base. Yet these demands must be met in an environment of overall constraint on, and legitimate, competing priorities for public expenditure.

The only possible resolution of the dilemma that I can foresee is a greater emphasis on other sources of university funding outside of government. Governments may well choose to increase their support for higher education, but it is difficult to see such increases keeping pace with the growth in demand. If anything it is likely that governments will target support more tightly on activities which contribute to the achievement of certain core objectives and will expect universities to pursue resources elsewhere for other activities.

In Australia, the Commonwealth government has encouraged institutions to diversify their sources of funding and reduce their reliance on financing by government.

Universities are being supported and encouraged to become more entrepreneurial and outward looking, with a view to:

- increasing their provision of services both within Australia and overseas for fee-paying students; and
- entering into profitable partnerships with industry, both to assist with the funding of research and to market courses, services and the products of research.

But this has not implied any reduction in government support. The current Minister has reaffirmed that significant Commonwealth funding of higher education will continue well into the foreseeable future.

Our government has taken the view that higher education forms an integral part of our social and economic infrastructure and that the optimal level of investment will not take place in the absence of substantial and ongoing government investment.

Nonetheless, I think it is inevitable that, over the coming decades, governments will play a diminishing role in proportional terms in the funding of universities.

The net effect, I believe, will be that the higher education system here and elsewhere will increasingly pursue non-government sources of funding and therefore will be exposed
Increasingly to competition. Like other players in any marketplace, universities will need to have regard to both the price and the quality of their services and be able to demonstrate these to paying customers.

As almost a footnote to these observations, I would note the potential conflict between an increased reliance of private sources of income, especially student fees, and the desirable objective of providing equitable access to university study for all able students regardless of their income.

Australia has developed a unique mechanism to resolve this conflict which I believe provides a model which other countries should examine.

Under our Higher Education Contribution Scheme (HECS for short) which I mentioned earlier, undergraduate students pay on average about 23% of the cost of their courses. But critically this contribution is not collected as an up-front fee—which would be a barrier to access—but rather through the taxation system after the student has graduated and after their income exceeds average weekly earnings.

Let me move on now to the third of the "forces" I have identified as significant in shaping the future of our universities: the inexorable movement toward internationalisation.

**Internationalisation**

A trend of great significance over recent years, and one which I believe will grow still more significantly over the next few decades, is the blurring of the boundaries of national economies and their constituent industries.

This is a long-term trend. It is being driven fundamentally by improvements in transport and communications. What these do, in essence, is to increase the speed and geographic range over which social, political and economic transactions can occur.

In doing that, the boundaries of our economic, political and social lives are constantly being extended. This means that there is a continuing trend to expose geographically localised political, economic and social entities—whether these are corner stores, local community organisations or nation states—to interaction with and competition from other areas.

We need only think of the role that televisions, telephones, fax machines—and earlier, railroads and printing expresses—have had on our economic social and political life.

With the marriage of communications and information technology, the imperatives which drive internationalisation will intensify further.

The impact on higher education will be dramatic. Strategic alliances between consortia of universities from around the world and even trans-national universities will develop quickly within this global context.

Just as universities are positioned at the forefront of the knowledge and information revolution, they are at the forefront of internationalisation.

There is already a well established international dimension to research in many disciplines. This is daily extending further into new countries, new universities and new research areas. Australia has intense and rapidly growing research links with every major country in the Asia-Pacific region as well as in Europe and America.

Again it seems to me inevitable that these international links will grow in teaching as well as in research. As higher education courses increasingly move out of the traditional classroom they will increasingly move over national boundaries. The citizens of any one country will increasingly have access to higher education courses sourced from many others, in the same way as they increasingly have access to television programs from around the world.

**Quality as a Competitive Factor in Higher Education**

Such a range of choice will expand consumer choice in higher education, in the same way as internationalisation of other industries has expanded consumer choice for other services and products. This in turn will sharpen the focus on the quality of higher education provision against international benchmarks.

Already during the 1990s, higher education systems around the world have begun to emphasise the importance of adopting strategies and processes which assure quality.

The concern with quality will, I believe, intensify as the international information and knowledge society develops.

Australia's current experience of quality assessment in higher education grew out of the expansionary policies of the 1987 White Paper on Higher Education.

In a Ministerial statement in October 1991, the Australian Government's position was expressed in terms of a "concern about the impact of expansion and other White Paper reforms on quality." The concern with quality in higher education has now moved on to the more sophisticated issue of quality control in an increasingly competitive and international industry.
While there is still considerable debate in this country about whether our current processes for the pursuit of quality in higher education are the right ones, there is an emerging consensus that the concern about improving quality of processes and educational outcomes, is essential in both the domestic and international context.

This brings me to the fourth “force”—the convergence of information and communication technologies. Nowhere is it more evident than in universities.

For example, there are now an estimated 350,000 users of AARNet. The number of users is growing at around 10-15% each month. Similarly, worldwide there are an estimated 20-30 million users of the Internet, to which AARNet provides a gateway in Australia. Global use of the Internet is growing at a similar rate.

Converging Information and Communications Technologies

These technologies are often described as being part of the promise of the so-called “information super-highway.”

What these technologies do, above all, is allow an unprecedented degree of flexibility in the way in which higher education is pursued by academics and delivered to students.

The challenge for higher education providers will be to re-engineer their organisational processes so as to take advantage of this.

There are already signs all around us that this is happening.

Through the open learning initiative in this country, individuals can pick and choose units from different institutions and assemble these into award qualifications without ever leaving home. That builds on the flexibility already available through mainstream distance education, which allows people to choose their courses from individual institutions located all around Australia.

We are in the process of building a system of comprehensive support for open learning students which will range from electronic mail to international library access to interactive tutorial assistance. All of these will be delivered through a network of easily accessible community sites like schools and local libraries.

A number of universities are locating the delivery of educational courses in work places, or at other places, such as community access centres, which are convenient to students.

Deakin University in Victoria, for example, is working jointly with Box Hill College of TAFE and the Ford Motor Company to deliver and receive educational information from workstations located at the Ford plants. Personnel supervising students at Ford can also gain access to course materials from their homes, using laptop computers and modems.

Southern Cross University in New South Wales has established open learning access centres in regional centres along the coast to better serve its regional clientele.

Some people see the march of technology as a vaguely sinister, Orwellian development, with isolated students talking to computer screens, cut off from what is most essential to the higher education experience.

Lying behind this image is a hypothesis that personal contact, and perhaps the ambience of campus life in general, are essential or at least highly desirable elements of the educational experience.

Regardless of one’s personal sympathies in relation to this hypothesis, it is inevitable that such traditional images of university life will be put to a searching test over the coming decades. In fact they already are, given recent evidence that students studying by open learning achieve at higher levels than comparable on-campus students.

At the very least there will be great diversification in the forms of access to university. Many students will continue to attend full time, on-campus courses taught with traditional methods. But increasing numbers will experience variations on that theme, right through the spectrum to students of the “virtual campus” who will complete their courses without once setting foot in a lecture theatre.

With improved flows of information, and with the progressive elimination of geography as a factor constraining the choices of would-be higher education students, I foresee a system of international higher education which is both large-scale and sensitive to individual needs.

In short, we will be able to meet the need for higher education on a mass scale, while still providing options for individuals to choose “off the shelf” as they wish.

With improved information flows, we can greatly increase the number of shelves within reach, and we can increase students’ freedom to pick and choose from what is on them.

It will be possible for higher education to be both large-scale and diverse because these technologies are so cost effective.
Demographic Change

The final "force" affecting universities which I identified at the outset is demographic change. You will recall that I did so with a major qualification.

Demographic patterns vary markedly from country to country and, as we know in Australia, from region to region. They will influence the overall quantum and distribution of funding which governments make available for higher education from time to time.

In Australia, the 17-35 age group, and especially 17-24 year olds, are of greatest interest in this regard as they are by far the main client group for higher education.

Changes in the size of this age cohort have had a marked effect on higher education policy in this country over the last decade. We saw a pronounced growth in the 17-19 population. At the same time, we saw a very sharp increase in the proportion of school students continuing their education to year 12.

In combination these demographic factors increased the imperative that led to the substantial growth in our higher education system that I mentioned earlier. However, over the next twenty years or so the Australian population is set to age markedly. The projections indicate that there will be a rise in the median age of the population from 33 years in 1993 to about 37 in 2011.

Similarly, the number of people in the 17-35 year age bracket is projected to fall in absolute terms from 1993 and is not projected to return to 1993 levels until 2011.

The demographic pressures on higher education in this country are therefore likely to decline until 1998, and will not return to 1993 levels until 2011.

This has some potential short-term implications for higher education policy. Viewed in the longer term, however, such demographic fluctuations seem to me of minor significance compared with the other enormous influences I have outlined.

That is not to say, of course, that demographic changes are not significant influences on national higher education policies from year to year. But I think the more fundamental influences shaping universities in the 21st Century lie elsewhere.

Conclusion

So where does this take us?
What might I see if I did have a crystal ball that gave a vision of the future?

First, the increasing demand for higher education in the 21st Century, as a response to:

- structural change in the economy; and
- a concomitant rise in social expectations.

These demands are unlikely, however, to be accompanied by a commensurate increase in funding from government. In combination this growth in demand but limitation on public funding will put pressure on the universities of the future to:

- diversify their range of offerings;
- diversify their funding base;
- become more competitive;
- diversify their modes of delivery and the settings in which learning takes place;
- adopt lifelong learning strategies in the design of their curricula; and
- continue to expand their activities in research and development.

Limits on growth in public investment in higher education, within an environment of increasing demand, must lead to a consideration of approaches which boost private sources of income, including that from individuals.

◆◆◆
It is a great privilege to be invited to address this important conference. I am sorry that I cannot be with you in person, but the annual residential meeting of the Governing Council of the Open University takes place this week. I decided that, on balance, it would be better to use communication technologies to interact with you and be physically present with my Governing Council—rather than the other way around. In fact, given the title of my address, New Technologies and Global Learning: Challenges for Education and Training, it is rather appropriate that I should work with you in this way. As we go through the session you might like to reflect on how it would have been different—for better or for worse—if I had been with you in Perth today.

Today’s Technologies

Let me start with a word about the way I am taking part in the conference, because my choice of technologies for this event is a practical application of some of my conclusions about new technologies and global learning. I am using two technologies in sequence. At this moment you are watching a video that was recorded by the BBC two weeks ago in my office and sent to you by air courier. While you are viewing this I am linked to your conference room on an ordinary telephone line so that I can hear the chairman’s comments and the noises in the room. This is quite useful, because, like any audience, you may gasp, laugh or shout “rubbish” at points in my presentation that I did not expect. Then, when you have watched the video we shall be able to discuss, over the phone, what I have said.

This all seems very straightforward. But, some of you may be asking, why did I not opt to carry out the whole thing by satellite? Technically, it would have been quite possible for me to go to a studio in our BBC Production Centre a hundred metres from my office. They have a satellite uplink and with a satellite downlink at the conference we could have used two or three satellites to go round the world from Europe to Australia and communicated live—or almost live, for with all those satellites involved there would have been a delay for a second or so.

There are three main reasons why I did not do it this way:

1. It would have been much more expensive than what I am actually doing. Couriering a video cassette is a lot cheaper than buying satellite time or flying me to Perth.

2. This method is more reliable. I am always nervous about saying in advance that anything technological is reliable, but this should be. Consider the various elements:

First, the BBC was not recording me live, so it was easier for them to make sure everything was in order. Second, we could courier a couple of copies by different routes to make absolutely sure it got to you. Third, VCR technology is widespread and reliable, and I imagine the
conference organisers checked the cassette through beforehand to make sure the BBC had not sent you a pornographic video by mistake. Fourth, the international "POTS," the plain old telephone system, which we shall use in a minute, goes everywhere and is very reliable. I am sitting by my home phone in the morning and you are having the phone line fed into the room’s audio system. It may be a bit tiresome for you to have to go to a microphone to talk to me, but that often happens for in-person presentations anyway when the acoustics are bad or the discussion is being recorded for posterity.

In my experience ad hoc satellite links just do not have this level of reliability. The reliability is there when a more or less permanent satellite link-up exists, such as the link-up used by the Australian Broadcasting Corporation and the British Broadcasting Corporation to exchange news stories. But one-offs are much less reliable. I have rarely taken part in an international satellite video-conference where there were not difficulties with the sound or the vision at some stage during the session. I am sure it will improve with time, just as audio-conferencing has, but right now doing this by satellite link would be unreliable. This leads to the final reason.

3. By using a reliable system which is partly asynchronous I can put more effort into thinking about the topic I am discussing with you, instead of worrying whether the signal is getting through. Likewise the organisers at your end, and you can give more attention to the subject of the session if you are not preoccupied about the possibility of the communication link going down.

A related point is that unless a fully interactive system is highly reliable you lose the advantage of interactivity. That is because, in an attempt to increase reliability, people tend to organise the satellite session in a highly formal manner with detailed timings, constraints on movement and so on. By the time you have finished, the result is about as spontaneous as reading a paper from the lectern.

After all that it will be very embarrassing if today’s arrangements go “kaput” on us. We shall hope that they do not. But I have discussed our use of technology openly because the same considerations are absolutely relevant to the challenge for education and training of new communications technologies. So often nowadays we see “gee-whiz” stories full of hype about how this or that technology makes this or that possible.

All sorts of things are indeed possible in principle. But if we are talking about global learning—learning for people all over the world—we still have to ask a lot of boring questions: who has the technology; what does it cost; is it reliable; and what does it do for you anyway?

Lest you begin to wonder whether the conference organisers have invited some Luddite to address you by mistake, let me assure you that I am an enthusiast for the application of technology to education. Indeed, it is because I am an enthusiast that I am hostile to introducing technologies in a half-baked manner which gives the whole enterprise a bad name.

Think of me as a wandering scholar who has spent most of his career working to increase access to higher education, especially through the application of the methods and communications technologies which we call distance education. I have worked in five political jurisdictions: France; the Canadian provinces of Quebec, Alberta and Ontario; and now the United Kingdom. I have moved at least every five years. This is not—I think—because I cannot hold down a job, but because a new and even more exciting challenge has always seemed to come up.

At the moment I cannot think of a more exciting challenge in training and education than my present job as Vice-Chancellor of the Open University in the UK. It has been my special privilege this year to preside over the celebrations of 25th birthday of the Open University, which everyone calls “the OU.” It has made me reflect on what distance education has achieved in applying technologies to education and training over those twenty-five years. And it has made me think hard about what the future holds, because there is no question that technologies are becoming available which have the potential to remove the remaining weaknesses of distance education.

Outline of Paper

Here is how I want to explore these issues with you this afternoon:

First, I am going to comment on the idea of global learning, because there is an important moral imperative for us all in those two words.

Second, I shall talk about trends in higher education and training. I note that one of the objectives of the conferences is to re-evaluate the purpose and nature of higher education and to explore the philosophies that relate to it. Although I am talking about higher education I shall say a few words about the academic ideal
and its international implications. The conference aims to increase interaction and interchange between the scholarly and business communities in the Asia-Pacific region. What does the academic mode of thinking have to contribute?

Third, I intend to focus on teaching and learning. What are the elements of good practice in this regard? How can new communications technologies help? What do we need to do in order that they do help? For my comments on that topic I am indebted to a very perceptive analysis recently conducted by William Renwick, former Permanent Secretary of Education in New Zealand, for the CERI program of the OECD. I worked with William for some years to launch the Commonwealth of Learning and he is an extremely wise observer of the global education and training scene.

Finally, I shall lift the veil on some of the ways we are starting to use new communications technology at the Open University.

Usually, we at the OU like to lull the competition into complacency by presenting ourselves as a very traditional organisation doing distance education with quill pens, parchment and carrier pigeons. It is not true, of course, and since you have been kind enough to invite me to speak to you I will let you in on some of our plans for the future. What I hope, of course, is that you will find our own plans for using new technologies, consistent with what I shall say about effective practice and teaching and learning.

Global Learning

"New Technologies and Global Learning." What do we mean by global learning? I know what I mean. Educating and training a rapidly increasing world population is, after seeing that they have food and shelter, the great moral imperative of our time.

I do not need to give you lots of statistics. The world’s rich are getting richer and the world’s poor are getting poorer. There are, unfortunately, some increasingly encouraging signs that the large countries in the north of your region—China and India—are developing well economically and combating poverty effectively. Nevertheless, as numbers continue to increase the challenge of creating the conditions for people to lead fulfilling lives will remain acute. It has been shown that the basic education of women has a very powerful positive effect on a country’s wellbeing. More generally, as pressure on physical space increases and paid employment cannot be taken for granted, expanding people’s lives into the space of the intellect, which is in infinite supply, will grow in importance.

This is not the place to analyse the relative merits of different types of investment in education and training in the developing world. That is another talk and, thanks to the World Bank and others, we are now beginning to know what forms of investment are more beneficial from an economic point of view. My points are more simple than this.

First, we insult the majority of our fellow human beings if we appropriate the term global learning to mean our own communications on the Internet or our first steps in educational broadcasting across borders. The challenge is to educate and train the people of the world, the majority of whom have, at present, only the most rudimentary access to communications technologies—new or old.

That means, second, that it is imperative to reduce massively the unit cost of education and training and to increase its effectiveness. It is sadly ironic that colonial powers, with Britain in the lead, bequeathed to their colonies in places like Africa a model of higher education that is very expensive and difficult to expand.

Higher Education

I will now discuss the link between global learning and my comments on trends in higher education. Even in the richest countries there is pressure to reduce the cost of higher education—most importantly the costs to the public purse, but also the absolute costs. This has come about because of the trend towards mass higher education. The generous taxpayer support of universities which was seen as appropriate when only an elite had access to them cannot be substantiated as countries aim for 50% participation of school leavers in higher education and more and more adults return to study part-time.

As a result more of the cost of higher education is rightly being transferred to the beneficiaries, for education is a sound private investment which gives, on average, a 15% salary advantage for each extra year of study after compulsory schooling. Not surprisingly, countries with high participation rates in higher education such as the USA, Japan, and South Korea often have a high proportion of enrolments in private higher education or a significant contribution of tuition fees to higher education expenditure—or both.

Australia has led the way, with its graduate tax scheme, in finding ways for state-run systems
to transfer costs to the beneficiary without disrupting enrolment patterns in the process.

When costs are transferred from the taxpayer to the beneficiary we should expect the beneficiary to take a greater interest in value for money. Even in the United States of America, students and parents are beginning to revolt against university tuition fees which have been increasing faster than inflation for as long as anyone can remember. In the United States, of course, universities have historically had something of the monumental function that medieval cathedrals supply in Europe. Therefore cost-effectiveness has not, until recently, been a serious issue.

Downward pressure on higher education costs all over the world explains part of the current interest in distance education and the use of new technologies.

In his analysis William Renwick states that:

Where, a generation ago, it was the policies and practice of conventional institutions that set the agenda for distance education, the reverse is now beginning to be the case.

The UK Open University is a good example of what he means. When it was launched 25 years ago, it was derided by the educational establishment as a silly idea. One politician called it “blithering nonsense.” The idea that adults would undertake university study part-time was regarded as rather quaint. The idea that you could get a degree by watching television was ridiculed.

As the OU celebrates its silver jubilee things could not be more different.

Impact of the Open University

First, according to the Time Higher Educational Supplement, the Open University has now enjoyed “several years of unremitting political and public favour.” Since the great reform of 1992 the OU occupies a central place in the British higher education system as the largest university, the only truly national university, and the official successor to the Council for National Awards as a validating authority for degrees in other institutions.

Second, the UK government has recently slammed on the brakes and temporarily stopped the expansion of full-time university study while continuing to encourage growth of the part-time student body.

Third, the OU has benefited from a cunning new public funding mechanism which concentrates part-time growth in the most efficient universities. The OU operates at a cost to the taxpayer, per full-time-equivalent student, that is about half the average for the university system as a whole.

Furthermore, the issue is not just the fact that technology-based distance education can be cheaper. It is also that it has a cost structure which results in low marginal costs per additional student. If those marginal costs can be made low enough then the student can pay them without taxpayer help. You then reach the holy grail of educational policy makers, a system that can continue to expand indefinitely without additional taxpayer money.

Finally, whereas people in the late sixties were amused at the idea of studying via television, you would think, to hear some commentators today, that the only valid way to learn anything in the early nineties is through a computer screen.

But to focus on any one teaching medium misses the point. I agree with William Renwick that the real contribution of distance learning has been to shift the focus in higher education from teaching to learning. It is not the concept of distance but the idea of guided self-study which is important. All education is going to have to give more responsibility to the learner as the number and diversity of those seeking education and training continues to increase.

The focus on learning, which means concentration on student outcomes rather than instructor inputs, has placed distance education advantageously with respect to an important new trend in training. This is the idea of defining vocational qualifications solely in terms of the competencies that a candidate can demonstrate—taking no interest in the course or process by which those competencies are acquired. Call it, if you like, the driving test approach.

This is the basis for the system of National and Scottish Vocational Qualifications that is central to Britain’s current education and training revolution. The Open University finds itself more involved than other universities in this new system—for two reasons. The first is that distance education routinely separates teaching and assessment and so is not as shocked by the driving-test approach as those who are used to combining teaching and examining. The second is that the OU is in the business of running a large, reliable nationwide and worldwide assessment system, which is what the vocational qualifications systems also requires.

Let me end these remarks about higher education with some brief comments about the academic ideal, because it is very relevant to the
The oldest university in continuous existence is the University of Bologna in Italy which is 906 years old. The University of Bologna and the other early universities developed, for the world, the academic mode of thinking. The academic mode of thinking is a combination of processes and principles: a willingness to question received ideas; a healthy scepticism; the scientific method; and emphasis on evidence and reason. You can contrast it with the ideological mode of thinking which confines itself within certain dogmatic boundaries. Alongside the academic mode of thinking grew the traditions of academic freedom and university autonomy which, however much we have abused them, remain important core values.

Those early universities had in their times, because they served the whole of Christendom, a universalism that we have since lost. They also had the ultimate autonomy of being entirely dependent on student fees, and that autonomy also has been lost as universities became too expensive for students alone and other patrons—most recently the state—had to step in.

The simple point I want to stress is that the academic mode of thinking is not only something very precious but also that it has an important role in promoting global harmony in an era of global learning. It stands for the principle that people have the responsibility to think for themselves. The academic mode of thinking should present a firm and consistent challenge to arguments from authority, be that authority national, religious or ideological.

I see no conflict between renewing our commitment to the academic mode of thinking and reforming higher education in some very practical ways. An aim of your conference is to increase networking amongst universities in the Asia-Pacific region. One of the most valuable things you could do would be to develop a collective view, between the ancient and diverse cultural, philosophical and religious traditions of your region, on what the academic mode of thinking implies in Asia today.

Teaching and Learning

I’ll leave you with that challenge and turn, as I promised, to issues of teaching and learning. My title is New Communications Technologies and Global Learning: Challenges for Education and Training. I’m going to switch that around and ask: “Good Practice in Teaching and Learning: What are the Challenges for New Communications Technologies?”

Let me comment on each of these in turn from the perspective of what new technologies can contribute.

Firstly, I will discuss the issue of well devised courses. Unfortunately no amount of hardware and software can make up for deficient brainware: “garbage in, garbage out.” It just may be that intellectual garbage presented in a hi-tech fashion is more readily identifiable as garbage than garbage mumbled in a lecture—but that is an arguable point.

Our courses at the Open University have the reputation of being well-devised. A lot of the credit for that goes to our course-team approach in which individual academics get pulled up on shoddy thinking or teaching by the rest of the team. However, it is also very clear that the steadily decreasing cost and increasing sophistication of electronic publishing and video/audio technologies make it easier for well devised courses to be attractively presented.

Second on the list is encouraging student-teacher contacts. I will combine this with the third point, prompt feedback.

This is an area where there has been a dramatic reversal over the 25 years of the OU’s existence. In 1970 other universities assumed the OU could not match them for authentic contact and feedback between students and teachers. Today some of those universities admit they can no longer match the OU, and students who transfer say the same. This is an area where new technology can help everyone.

The OU encourages contact by giving each student a tutor. The core of the job is providing...
comprehensive written feedback on assignments. Being available on the phone and holding some group sessions are other tutorial tasks.

There is a widespread expectation that conducting the tutorial process by electronic mail rather than paper mail will have many advantages. Not just speed, but greater ease of moving materials around and readier access to guidance and pre-programmed help. Furthermore, e-mail may be a more congenial medium for shy students. But I should log here the key issues of organisation and reliability. To give an example: at our main examination session last October the OU administered and marked over 100,000 exams written by students in 93 countries. It is a complex logistic operation involving thousands of markers and the movement of a lot of paper. In the course of that whole operation last year we lost just four scripts. Admittedly, that was a particularly good year.

Nevertheless, students have a right to expect that new technologies will be as reliable as the old—as well as giving additional advantages. That will require hard work and the design of robust systems.

The fourth element of good practice is encouraging active learning. Belief in the importance of active learning is what makes some discussions between career educators and the promoters of technology a dialogue of the deaf. Promoters too often give the impression that they equate teaching, or even learning, with the display of information, which technology does well. Educators, in return, too often over-mystify the learning process.

Technology, in the form of simulations and interactive exercises, can help to make learning active. But this software has, of course, to be created. The capacity to deliver it to the student is only the first step.

Element five is encouraging co-operation amongst students. Here e-mail and computer conferencing clearly have a great deal to offer. Most distance education institutions encourage the formation of student self-help groups. These technologies will enhance the impact and effectiveness of those groups.

The sixth element is time on task. Here we should not look to technology to shoot knowledge and skills directly into the neurones like an educational nicotine patch. What you can do is to eliminate a lot of the down time that learners spend making contact with learning resources and getting feedback from tutors and fellow students. The challenge is to design systems which make the technology more convenient, reliable and user-friendly than current arrangements.

Next in the list is the communication of high expectations. Here, in my experience, it is not the technology itself but the way in which the technology is used that sets the tone. William Renwick writes about “institutions that hold high expectations for themselves.” I think that is part of the reason that our OU students perform so well. The University tries to do everything, whether it is television production, assignment marking, or organising degree-awarding ceremonies, at the highest professional standards. It seems that students take their cue from that.

Finally, good practice respects diverse talents and ways of learning. The main implication of that is to avoid being seduced by the idea that some new technology will provide a total answer to effective learning. Institutions like mine call themselves a multi-media compact disk. We are, of course, producing such disks, but we know that students tastes vary. Some like residential summer schools, some try to avoid them. Some find our broadcast television valuable but others do not. Some never miss a tutorial, others never go near one. Therefore we look to technology to increase variety, not reduce it.

New Communications Technologies at the OU

That was a good lead in to my concluding section. I said I would say a word about the Open University’s projects and plans for using new technologies. For years we have had dynamic little groups of staff—what they call skunk-works in North America—experimenting with all sorts of technologies. What I am going to talk about are the moves towards application. Our ambition is not to be the first into the field with a new technology, but to be the first to apply promising new technologies reliably on a large scale. We owe it to our 100,000 students to be second and right rather than first and wrong.

I will talk about new technologies in increasing order of glamour. Bear in mind though, that this may not represent the same order as their practical importance.

1. CIRCE

The least glamorous project is called CIRCE and is the complete redevelopment of our student record systems. Before you ask what that has to do with new communications technologies let me simply point out that today the profitability of an airline probably has more to do with the quality of its computerised
Cultural Sensitivities in the Context of Educational Change

Nerida F. Ellerton
Edith Cowan University
Australia

This paper discusses the notions of cultural sensitivity and networking, especially as they impact upon working towards achieving desirable change in education contexts. After distinguishing between macro and micro cultures, five challenges to educators are presented:

1. Do educators, as individuals, too easily dismiss experiences they have in other micro cultures as irrelevant or inappropriate, and fail to use these to help them to reflect on the strengths and weaknesses of the micro cultures in which they normally operate?

2. How sensitive are educators to the needs, interests, and feelings of others?

3. How closely do the networks in which educators are personally involved resemble the metaphor of a working net?

4. Do educators communicate in ways which will help to establish links which will become the fabric of a net and lay the foundation for effective networking? Or are they destroying part of existing nets by the ways in which they communicate?

5. Are educators reflective practitioners, who are trying to take control of the change process, or are changes being imposed on them without consultation or other involvement? In other words, are educators sufficiently proactive when it comes to achieving desirable changes in their own particular education settings?

Culture and Change

A generation ago, the world seemed to be a much larger place. My grandfather, for example, made several visits back from Australia to where he was born in Europe—by ship. He would stay away for up to six months at a time. After all, the sea voyage itself took 6 weeks. Certainly, there was the appearance that one had time to adjust to different cultures and to make friends in different contexts. Networking was a word which was not in most dictionaries.

Because change is something we all cope with every day—whether this is a major, imposed change or whether the change is so subtle that we are almost unaware of its occurrence—we tend to make light of the cumulative impact which a generation of change has made on our lives.

The Nature of Change

Four images of educational change have been described by William Higginson, of Queens University in Canada:

1. Change as a random process—educators are seen in supporting roles, trying to help children learn against a backdrop of political, social and economic struggle.

2. The rugby-league image of change—"life proceeds according to reasonably well-defined rules, and what happens is to be understood in terms of these rules. But the interpretation of, and feelings about, what is going on depend on who you are barracking for" (p. 5).
3. The pendulum image—educational change is likened to a pendulum swinging backwards and forwards between innovation and inertia.

4. The cocoon image—This has its origin in Kuhn’s notion of a paradigm shift which he used to account for the growth of scientific knowledge. With this metaphor, new and significant theories in a particular field of study are put forward (the cocoon), but initially these are incomplete and untested, yet “embody the promise of radical yet, somewhat paradoxically, inevitable change” (Higginson, 1989, p. 5).

Socio-Historical Contexts of Change

Change and its interpretation must always be intimately linked to particular social and historical contexts. Let me illustrate this with a quotation:

In modern times there are opposing views about the practice of education. There is no general agreement about what the young should learn either in relation to virtue or in relation to the best in life; nor is it clear whether their education ought to be directed more towards the intellect than towards the character of the soul. The problem has been complicated by what we see happening before our eyes, and it is not certain whether training should be directed at things useful in life, or at those conducive to virtue, or at nonessentials ... And there is no agreement as to what in fact does constitute virtue. Men do not all prize most highly the same virtue, so naturally they differ about the proper training for it.

Before I tell you the source of this comment, think about what it means for education and training. Do we agree, for example, on what should be education priorities for our young people, or on appropriate training?

The source was in the writings of the ancient Greek philosopher, Aristotle (1962 tr, p. 300).

Now that you know the comment was written about 3000 years ago, do you still think that the ideas have relevance today? Or would you now feel more comfortable in pushing the ideas aside, saying that although they might have had relevance for the ancient Greeks, the comment has little relevance for the world as we know it today?

Macro and Micro Cultures

We tend to associate the word culture with a particular nation or with a particular group of people who have certain traditions. “Of course I am culturally sensitive,” each of us would claim! “I respect the heritage and traditions of others.”

We do not, however, live in a world composed simply of macro cultures interacting with each other—of separate nations existing as independent cultural entities. We live in a world composed of countless micro cultures—of people creating new contexts, new networks, new cultures bounded by new assumptions and traditions. I contend that most of us have had very little preparation for living and working in these micro cultures, and that most of us go happily from day to day almost oblivious of their existence.

I believe that many of us do not recognise, consciously, that we are living in a world in which we need to be much more sensitive to micro cultures than ever before. We tend to think

![Figure 1. Two cultures but superficial contact.](image)

we are still living in a world where the most important aspect is the more transparent macro culture—a world in which all we do is rub shoulders with other cultures (see Figure 1).

![Figure 2. Some interaction between two cultures.](image)

Let me illustrate diagrammatically other models which operate. For example, Figure 2 represents the situation in which a group of students from one culture mix with a group of students in the country of study. Such exchanges or short stays (even when “short” might mean two or three years) usually result in some in-depth understanding between individuals, some networking, but, on the whole, only superficial understanding between others in either of the
Two cultures. Perhaps what I am trying to say here is that there is no substitute for direct personal experience between people of different cultures. Just as I believe that each learner needs to construct their own understanding in a cognitive sense, so I believe that all individuals need to construct their own interpretation of their particular cultures in the light of their reflections about their experiences in other cultural contexts.

Figure 3 suggests a mix of two cultures attempting to co-exist—where there is little if any networking across the cultures. Although there may be some formal cultural understanding between the two cultures, there is also significant cultural tension.

Cultural sensitivity cannot be formally taught. I cannot teach you what it is like to live and work in a particular culture—I can tell you about it, I can show you photographs—but I cannot teach you what it is like to be in a particular culture. All I can do is to hope that I can sensitise you to some of the issues, and that I can provide some signposts along the way which might help you to construct your own culturally sensitive interpretations. In turn, these should lead to culturally sensitive actions by culturally sensitive individuals who live in a global macro culture composed of networks of countless micro cultures.

Classrooms, for example, can be regarded as cultural microcosms in their own right, and education research leaves no doubt that the assumptions and patterns of interaction of teachers and students in some Asian classrooms, though superficially similar to classrooms in most schools and tertiary institutions in Western nations, are actually quite different (Stevenson & Stigler, 1992; Stigler & Baranes, 1988).

Let me emphasise that I include within the notion of micro culture the culture of our different workplaces, the cultures of our classrooms, the cultures of the homes, of the shopping malls, and so on. These micro cultures interact and impact on each other constantly. I believe we pay insufficient attention to addressing the question of match and mismatch between an individual's experiences in different micro cultures, and do not realise that this impedes our progress in establishing networks.

Five Challenges

In this paper, I will raise five challenges which I hope you will take up on a personal level. Each one will attempt to address some of the hidden dimensions of cultural sensitivities seen in the context of educational change.

The first challenge, then, is this:

1. Do we, as individuals, too easily dismiss experiences we have in other micro cultures as irrelevant or inappropriate, and fail to use these to help us to reflect on the strengths and weaknesses of the micro cultures in which we normally operate?

(Think again about your reaction to the quote from Aristotle. It is easy to say we should learn from our experiences or from what we have read, but do we?)

Sensitivity

It is, of course, difficult to see ourselves as others see us. That is how I interpret the word sensitivity.

Think, for a moment, of the last conversation you had before this session began, or of some of the other conversations you have had during this conference. Think of the person or people to whom you were talking. How did they feel? Did they feel, for example, that you were genuinely interested in what they were talking about? Were you genuinely interested in what they were talking about?

Sensitivity values other people's needs and interests. One can use words like unselfish, thoughtful, respectful, and tolerant. We all need to feel valued by others. In education, it is all too easy to deal with the cognitive side of learning and teaching and forget the affective side. Yet both are intimately and inexorably linked. To be sensitive, then, in my view means to care about both the cognitive and affective needs of the person or people with whom you are interacting.

You may find it interesting to ask yourself what it means to be sensitive in any one of the
micro cultures most relevant to you. As you know, I am a mathematics educator. Recently, Ken Clements and I were faced with the daunting task of preparing an 8-session professional development package for teachers of mathematics aimed at sensitising teachers to issues associated with attitudes and appreciations towards mathematics (Ellerton & Clements, 1994). Ken and I agree that we both learnt much about ourselves as we prepared the materials designed to be used by others.

Sensitivity means, for example, designing assignments to which the students can relate—the assignments are useful to students beyond being mere tasks which will give them a grade. This is all part of handing over the responsibility of learning to the learner. All of us are prepared to put much more time and energy into an activity which we feel is meaningful (as well as utilitarian).

Let me give you an example of sensitivity (or lack of it) in a different micro culture. The world of motor transport—of cars, buses and taxis. I have a B-class driver’s licence—which means that I am licensed to drive large vehicles including buses and trucks. I had to pass a special oral and practical driving test to get this licence. A professor driving a bus? Why not? It makes a lot of sense in Australia. I have often found myself with a need to transport a group of students, or visitors, or children from one place to another in the course of my work—and it has proved difficult and costly to provide transport. In many countries, a professor would simply not be seen driving a bus. Just as I ask people from other countries to accept the fact that I am happy to drive them from one place to another in the University bus, so I need to respect the fact that, when I visit some countries, my hosts would be upset if I chose to use the local bus system rather than ask them find me a taxi. Sensitivity applies to each of us, and needs to be a two-way process.

Let me come back to my driving the University bus. Last Sunday evening, I was at the International airport at 11 pm meeting a group of 10 senior Malaysian Ministry of Education personnel who are present here today. I had driven to the Airport in the University Coaster—an 18-seater bus. Once the group had arrived, I went to the parking lot so that I could bring the bus around to the terminal to collect the group. As I left the parking lot I handed in my ticket to the attendant so that I could pay for my parking. He said “What’s a little girl like you driving a big bus like that?” Perhaps my non-reply was the most appropriate response.

My second challenge to us all is this (and I have used the first-person pronoun “we” rather than the second-person “you” because I include myself in these challenges):

2. How sensitive are we to the needs, interests, and feelings of others?

Networking

Networking is an integral part of the theme for this conference. The concept of networking is also clearly a fundamental theme in my paper and provides the framework for my discussion of cultural sensitivity.

The term itself conjures up two powerful metaphors which I believe are common to most if not all cultures—the combination of two separate notions: a net and working.

The fundamental nature of a net with interwoven strands which criss-cross the entire fabric, and link one section to another, has several important features relevant to the notion of cultural sensitivities. These features include the following:

- The bonds between nodes are strong and cannot easily be broken even if the net undergoes distortion;
- The texture is open and the fabric unburdened;
- If the net is damaged in one area, the strength of the whole net is usually sufficient to compensate and helps to hold the rest of the net together while repairs are made to the damaged section;
- Communication within the net—for example, tension—is transmitted and shared across the entire net very quickly;
- One net can be joined to other nets very simply, regardless of the particular pattern in the nets;
- A net does not rely on central control; control is disbursed across the entire fabric;
- Nets often have unique patterns which rely on symmetrical linkages; their strength is enhanced by this symmetry and consistency of purpose.

Let me say a few words about the metaphor of working. First of all, working implies activity, or an environment which nurtures activity. It could also infer a working mechanical, electrical or electronic device. But all of these have, in common, the human element either overtly or covertly.

So networking could be described as
representing activity amongst individuals who have established links of various kinds. A working net!

In terms of our metaphor, the nodes are people, spread across the world. The thread between two nodes can be described as communication; a network is comprised of many forms of communication between many individuals. My third challenge is this:

3. How closely do the networks in which we are personally involved resemble the metaphor of a working net?

(Consider, for example, the extent to which there is a commonality of purpose, a notion of shared control, an open and unburdened structure, and so on.)

Communication

Communication is often taken to mean the spoken or the written word. But communication is much more than that. Why did we all so much hope that the connection to Hong Kong to hear Professor Wang Gungwu would be successful? Because we wanted to see and hear him deliver his address. Why didn’t we opt to have someone read a written paper he had prepared? The message would still have been the same. But would it? Personal delivery embodies the affective as well as the cognitive—the conviction of voice and gesture cannot be overstated. Why do we all (I think I can say this) hate the mechanical version of voice mail on the telephone? When we substitute a personal message, people are happy to leave a message.

And communication is two-way. Imagine how hard it was for Professor Wang Gungwu to deliver his address to an unseen audience. He could get no feedback from the audience—yet he was able to deliver his address with a passion which communicated at this end. However, recall how delighted he was to hear the applause from those here—the acknowledgment that his words had indeed communicated with his unseen audience.

Let me list a few features which I regard as essential to communication, along with their inverses. Some of the following words have overlapping ideas—and the list is not comprehensive. But, next time you are communicating with someone else, which of these features are embodied in your actions?

- interested/uninterested
- warm/cool
- concerned/arrogant
- unselfishness/selfishness
- tolerant/intolerant
- caring/insulting
- patient/impatient

I have chosen a few examples which I hope will help you reflect on this issue of communication.

Example 1. Many students from other countries, for example, facing the confusion brought about by new teaching and learning patterns, strange Australian accents and idiom, barely adequate accommodation, strange food, absence of friends and extremes of climate begin to wonder whether their decision to study in Australia was a correct one. As academics, what interest do we show in addressing the underlying reasons for culture shock?

Most if not all Australian education institutions would claim that they do provide adequate support through specially appointed tutors and advisers (particularly in university halls of residence), but despite the fact that some excellent materials on how institutions should support international students in Australia have been published (see, for example, Mezger, 1992) it is my experience that the level and quality of support does not always meet the need, despite the best efforts on the part of the host institutions.

What is particularly important to realise is that many students experiencing culture shock are too shy (or feel too ashamed) to seek the help they know is available. I was giving a seminar at another university, and wanted to have a few quiet minutes to prepare myself. So I went to a small section of the student cafeteria and took my cup of coffee to the only spare seat I could find—opposite a small, very quietly spoken student from India. I did not really want to begin a conversation, but somehow I found myself asking about what she was studying and so on. I soon realised she was under enormous emotional stress because of problems with one of her units and did not know where to turn. She was very touched that someone had shown any interest in her, or her troubles, at all. Yes, she had talked with the student counsellor, and yes, she lived in a student residence and so had other students to provide some social support. But she had been advised to make an appointment with her lecturer. Simple advice? Simple action? But cultural conflict! Her cultural background meant that it was extremely difficult for her to push herself forward and ask for an appointment. The solution in this case would have been for the
student counsellor to make an appointment for her. But in the interest of giving the student control, the counsellor had asked the student to do this. This might have been appropriate later, if and when she had had time to construct her own ways of best combining experiences from her new micro cultures with the traditions of her old culture, but not now. At this time, it only added to her tension and insecurity.

Example 2. Asian politicians, education academics and administrators are not impressed by Australian university and college representatives who, for example, under the guise of presenting papers at academic conferences overseas, unashamedly promote their own institutions to a "captive" audience. We have sat with Asian educators during such exhibitions, and been embarrassed when they have turned to us and whispered "Another Promo!"

Example 3: There is a difference between speaking slightly more slowly, and using more-simply constructed sentences when speaking with anyone for whom English is not their first language—and speaking to them as if they have only simple conceptual understanding. I have seen native English-speakers talk to groups of non-English speaking background academics as if they were in the first class at school!

Many consultants from Australia (or the United Kingdom, United States of America, Canada, New Zealand, etc.) working in Asia assume that their Asian colleagues who speak English have limited fluency with English. Sometimes the consultants unwittingly insult them by speaking very slowly in English or deliberately using very simple words and constructions. In fact, not only do many Asian national educators speak English as their first language, but they also (not surprisingly) think in English. Furthermore, often they are fluent in a number of languages and are therefore more linguistically competent than most Western academic educators and administrators.

An interesting example of the importance of being linguistically sensitive arises from the fact that first language speakers of English who were born in Asia of Asian parents usually have accents which do not resemble those of first language English speakers in countries such as Australia. Their grammar is impeccable, and their spoken and written English technically excellent. However, their idioms are different, and their intonations reflect their associations and facility with other languages (such as Mandarin, Tamil, Bahasa Malaysia, Hindi, Thai, etc.). One phrase that I know I always wanted to "correct" when I first heard it used in Asia by Asian colleagues was "Can do." Two other expressions are "Where do you stop?" and "Where are you staying?" (both of which can have many meanings, but in fact often mean the same thing—"Where do you live?") In Papua New Guinea Tok Pisin, the expression would be "Mary Joe she stop where?"

To put it another way, I know how I felt when it came to say goodbye to my three-year-old's kindergarten teacher in 1976. My husband had spent 7-months' Study Leave in the United States; I had been a tutor for third-year mathematics and engineering units. Our two sons were then 3 and 1. Andrew's kindergarten teacher said to me how impressed she had been that we had all learned to speak English so well in such a short time, and that this had really helped Andrew learn his English!

Example 4: The patterns of discourse experienced by Asian students before they come to Australian institutions are different from what they will face in Australia. Thus, not only will they be confronted with the problem of learning in a language which is not their first language, but also the patterns of discourse within classes will also be qualitatively different. There is a mismatch between the two micro cultures.

Example 5: If an English-speaking person is placed in the position of being expected to correct a submission written in English by someone with limited facility in English, then the person doing the correction needs to be particularly sensitive to the feelings of the writer. Sometimes, writers will request that you correct their English, but if, in fact, you return the documents to them with extensive corrections, then this can become demoralising. It is often better to work interactively with individual writers on word-processed drafts directly on the computer. In this way, the extent of the corrections is far less conspicuous, it is possible to explain and explore different nuances of language with the writers, and the writers still feel a large degree of ownership over the final document.

For a person with limited fluency in written English, the task of preparing a thesis or extended paper in English is particularly daunting. Supervisors are often faced with extraordinarily delicate and time-consuming roles of assisting their students to prepare theses in such a way that the students retain their
dignity and maintain ownership over the final product. Some supervisors take the view that it is not their job to help with the English, and refuse to read drafts unless they are presented in "acceptable" English. Clearly, such a policy places enormous pressure on students whose facility in written English falls short of the high level demanded for thesis presentation.

Must theses submitted to Australian Universities be in English? Ken Clements and I raised this issue at the 1993 IDP conference in Canberra. We believe that, during 1994, some Australian universities have moved to make it possible for students to submit theses written in their own first language (with English chapter summaries). It would be necessary, before a thesis proposal was approved, for the university to be convinced that examiners with sufficient expertise and fluency in the language of the writer, were available to assess the thesis.

**Example 6:** Difficulties arising from language are often masked by the fact that many Asian students have considerable mathematical and scientific talent and perform well on written examinations. Research shows that a high proportion of the relatively few errors that many of these students make are purely language-based (Marinas & Clements, 1990). Outstanding students can be reduced to apparent mediocrity because of the unequal influences of language factors. In a similar vein, many students who would have passed easily are seen to "fail," and this can even result in the ignominy of their having to return home as "failures" (Turner, 1980).

It is a common belief among many Australian university administrators and academics that courses such as Engineering, Mathematics, Computing, Science, and other "science-related" units require less facility with English than courses in non-science faculties. To the contrary, the study of mathematics and science demands at least as much linguistic competence as do other subjects (Ellerton & Clements, 1991). For example, a calculus question such as "Find the maximum volume of a right cone that can be inscribed in a sphere of radius R" is semantically very complex (and in addition the apparently simple word "right" has a different meaning from its normal usage).

**Example 7:** Australian academics, in particular, will identify with the next example. In the recent Quality Review Round of Australian universities, I was in one of the groups to appear before the Review Panel. This group included both staff associated with postgraduate programs, and postgraduate students. One of the students was from a non-English speaking background. A panel member asked this student a question which went something like this: "If I was a fairy godmother and told you that you could have anything you liked to improve your lot as a postgraduate student, what would you ask for?" The student said simply, "Could you please repeat the question?" Fortunately, the panel member realised what had happened and rephrased the question, leaving out the reference to the fairy godmother, etc. But we don't always have the opportunity to rephrase!

A similar example was given to me by a colleague. In working with a Masters student from Thailand, he had used the phrase "Fools rush in where angels fear to tread" when he and the Masters student were about to give a major joint presentation to a particularly large and potentially threatening audience. The Thai student looked puzzled and said "What do you mean when you talk about 'fools' and 'angels'?" My colleague explained that he was nervous, and was wondering about the wisdom of having agreed to present the paper to such an audience. A few months later, the student had completed her thesis and was back in Thailand. She was asked to present a paper on her thesis to her professional colleagues. She wrote to my colleague: "This time I'll be the fairy."

The fourth challenge is therefore

4. Are we communicating in ways which will help to establish links which will become the fabric of a net and lay the foundation for effective networking? Or are we destroying part of an existing net by the ways in which we communicate?

**Change and Loss**

Change implies that something new will replace something that exists. In the process, something will be lost. It seems to be a part of human nature to try to return to a state of "comfort," whatever this might mean in different contexts. It means, for example, that some individuals avoid using the computer because it threatens their particular way of working, or ....

Change, therefore, is often seen as threatening, particularly when it is imposed from outside the micro culture.

There are a number of ways of thinking about the implications of educational change. A simple way, of course, is to emphasise the gain rather than look back at what is lost. But that is likely to be unproductive if the change has been
imposed.

An important approach is to adopt action research practices, and become reflective practitioners who take control of the change process.

Dewey (1920) expressed it in this way:

In the degree in which the active conception of knowledge prevails ... the moral disposition toward change is deeply modified. This loses its pathos, it ceases to be haunted with melancholy through suggesting only decay and loss. Change becomes significant if new possibilities and ends are to be attained; it becomes prophetic of a better future. Change IS associated with progress rather than with lapse and fall. Since changes are going on anyway, the great thing is to learn enough about them so that we be able to lay hold of them and turn them in the direction of our desires. (p. 116)

My fifth challenge is:

5. Are we reflective practitioners, who are trying to take control of the change process, or are changes being imposed on us without consultation or other involvement? In other words, are we sufficiently proactive when it comes to achieving desirable changes in our own particular education settings?

In Conclusion: Without Passion the World Will Die

I will bring this presentation to a conclusion by reading a poem which I wrote in Bangkok in July. I had been taken to the Heritage Club, an exclusive restaurant, where I was to be one of the guests at a dinner function arranged by senior staff from Siam University, a private university in Bangkok. While I was waiting for the rest of the party who had been at different meetings, I sat at the window and watched the sun set over the building landscape of Bangkok, with all its contrasts of old and new.

Bangkok lies restless at my feet
as the sun glints gold
and casts antique shadows on my face.

Privileged
I see culture permeate the modern landscape
and proudly contrast curved and gentle art
with concrete squares and boxes
moulded into towers.

Behind me, classic English works
of Dickens, Shakespeare—side by side

with Johnson’s History of the Nations
and Modern Physician by Dr Andrew Wilson.
But atop the 20 floors—black glass and marble curves—
a mere touch away
two black saucers point skywards
seeking messages in a thousand tongues;
the intersection of east and west.

In all of life
it is not the outer shell or form
which leaves the lasting taste.
Only the inner soul can bless,
linking the kernels of the minds
which pass in time
transient, wistful
and mystical.
The city shell is fragile, empty—
hollow,
without the life endowed
by human touch and mind.
And networks linking cities, countries
crossing time and space
are nothing more than shallow black webs
of wire and symmetry—
unless the voices carried
have a human face.

And so the challenge as I see it is not one of establishing the physical resources necessary for networking. Time has produced and will continue to produce miracles in technology. Rather, the challenge is to support people throughout the world in their bid to be able to put their soul into the technology—to understand it, to use it, to control it—rather than to be dominated by technology.

Technology can work against the fundamental principles of networking. It can separate those who control technology and those who are controlled by it. The poem concludes:

Mere words?
Without touch
communication is cold, dead,
mechanical.

Without a face,
there is no soul—
there can be no passion.
And without passion
The world will die.
References


UNESCO Symposium: Globalisation and the Role of UNESCO—Change and Development in Higher Education

Dumitru Chitoran
Higher Education Section, UNESCO
Paris

The present document is based on work in progress by UNESCO to elaborate a comprehensive policy for the Organisation covering the whole field of higher education, as requested by the General Conference at its Twenty-Seventh Session in 1993. The analysis made and the proposal advanced are tentative.

Introduction

The analysis and rationale for change and development in higher education at the system and institutional levels, which are presented in this policy paper, stem from a world-wide reflection exercise on the role, main trends and challenges facing part of a broader process. This process is aimed at reinforcing UNESCO’s role in its areas of competence, in the light of the political, social, economic, and cultural, as well as scientific and technological developments and transformations, at the end of this century and the beginning of the new millennium.

The complex nature of the activities and functions discharged by UNESCO, and the highly diverse institutional framework of higher education, is interpreted in a multitude of ways by those to whom this document is addressed—from individual members of the academic community to stakeholders and decision-makers, and to international organisations, including UNESCO itself. The proposal is, however, directed, first and foremost, to the main actors responsible for the setting up and implementation of policies on higher education at the national and institutional levels, as well as to those having an impact on international academic cooperation.

Three Trends

Recent developments in higher education are diverse and are often specific to regional, national and local contexts. Over and above these differences, however, three main trends can be identified which are shared by higher education systems and institutions worldwide: quantitative expansion (which is nevertheless accompanied by continued inter-country and inter-regional inequalities of access), diversification of institutional structures, programs and forms of studies, and financial constraints. The latter tend to become a source of tension between higher education and the state as well as within higher education and between various levels of education, because they have a negative effect on the quality of teaching and research and impede efforts to modernise institutional infrastructures. The widening gap between the developing and developed countries with regard to the conditions of higher education and research is of particular concern.
Challenges

Despite progress in many areas of human endeavour, the challenges of today's world are paramount. A synthetic overview of the main global trends shows that they are characterised by a series of concurrent, sometimes contradictory, processes of democratisation, globalisation, regionalisation, polarisation, marginalisation and fragmentation. They all have a bearing on the development of higher education and call for adequate responses on its part. Both the shifting imperatives of economic and technological development and the current trend to shift emphasis with regard to developmental strategies should be considered equally important. As advocated by UNESCO, development should pursue sustainable human development in which economic growth serves social development and ensures environmental sustainability. The search for responses to the problems deriving from the above-listed processes passes through education, including higher education.

Responses of Higher Education—A New Vision

The responses of higher education to a changing world should be guided by three watch-words which determine its local, national and international standing and functioning: relevance, quality and internationalisation. It is also in relation to these objectives that the role of, and contribution by, UNESCO to facilitate the process of change and development can be formulated.

The relevance of higher education is being considered foremost in terms of the role and place it holds in society, and the functions it carries out with regard to teaching and research and, in turn, on service. In addition, the relevance of higher education is being considered in terms of its relationship with state and public funding, links with the world of work, and interactions with other levels and forms of education.

The imperative of relevance has acquired new dimensions and greater exigency as modern economies demand graduates who are able to cope with the exigency for constantly up-dating their knowledge, learning new skills and nurturing qualities to be not only successful “job-seekers” but also “job-creators” in continuously shifting labour markets. Higher education has to rethink its mission and to redefine many of its functions particularly in view of society’s needs for lifelong learning and training.

One of the prerequisites for the successful functioning and governance of higher education resides in its good relationship with the state and society at large. These prerequisites should be based on the principles of academic freedom and institutional autonomy which are essential for the preservation of any institution of higher education as a community of free inquiry, able to perform its creative, reflective and critical functions in society. While the state assumes catalytic and regulatory roles, institutional self-governance in higher education should prevail and should be given adequate and efficient forms. At the same time, the entire socio-economic environment compels higher education institutions to build up ties and partnerships with the state and other sectors of society, and to accept that they are accountable to society.

Limited Public Funding

The problem of limited public funding is one of the main constraints for the process of change and development in higher education. This constraint is a principal source of the current crisis in higher education and, quite often, of the strained relations between the state and higher education institutions and the academic community at large. There is a need to assure increased participation of all stakeholders—students and their parents, the public and private sector alike, including local and national communities and authorities, in finding solutions for financing higher education and in showing a greater capacity to introduce cost-effective measures in order to be able to cope with this challenge. What is needed in the first place is for higher education institutions to improve their management and to make more efficient use of the human and material resources available.

Introducing “tuition fees” is a sensitive issue in higher education as it touches on many aspects of social justice and mobility, educational equity and the educational, social and fiscal policies of the state in general. It also has to be seen in the context of academic streaming affected by existing tuition fees at the preceding levels of the educational system. The introduction and level of tuition fees in public higher education require careful consideration and should be viewed with caution in view of these broader implications. These issues suggest that due attention needs to be accorded to the possibility of introducing alternative forms of financing the cost of higher education, and the provision of support for students in the form of grants and loans.
Nevertheless, the specific conditions prevailing in each country indicate that it would be erroneous to expect that across-the-board introduction of alternative funding can take higher education out of the current crisis and stop the deterioration process now affecting many institutions, particularly those in developing countries. Public support to higher education remains essential. Otherwise, there is a risk that a radically-applied policy of detachment of the state from higher education in matters of financing could result in excessive pressures for cost recovery, search of alternative funding, and narrowly-understood exigency for self-reliance. This could lead to an excessive drive to commercialisation of activities carried out by higher education institutions. If higher education is to make a significant contribution to the advancement of society, the state and society at large should perceive it less as a burden on the public budget and more as a long-term national investment for enhancement of economic competitiveness, cultural development and social cohesiveness. This is also the framework within which the problem of cost-sharing in higher education needs to be addressed.

The renewal of teaching and learning in higher education is essential for enhancing its relevance and quality. It calls for the introduction of programs which pursue the overall intellectual development of students, and their capacity for the enhancement of interdisciplinary and multidisciplinary content. Further, it calls for the use of methods and ways of delivery which increase effectiveness of higher learning experiences, particularly in view of the rapid progress in information and communication technologies. The judicious introduction of such solutions could be carried out in the context of the development of units of *modules of knowledge* as innovative organisational frameworks for studying.

**Research**

Research is not only one of the major functions per se of higher education but also a precondition for its social relevance and academic quality. The educational benefits of activities associated with research are often underestimated. A similar argument can be advanced with regard to the importance of academic research for technology-related local development. These issues should be take into account when decisions are made with regard to the funding of academic research. We have entered a stage in human development when the number of areas of common concern and joint explorations between science, technology and culture is rapidly increasing. Higher education should be seen as an indispensable partner in promoting those links.

**Quality**

Quality has become the major concern in higher education during the last quarter of the century and will continue to remain so for many years to come. Meeting society's needs and expectations towards higher education depends ultimately on the quality of its staff, of its programs, of its students, and of its infrastructure and academic environment. The search for "quality" has many facets and involves many actors as well as modes of action. The principal objective of quality-enhancement measures in higher education should involve institutional as well as system-wide self-improvement approaches.

The assessment and enhancement of quality should start with and actively involve teaching and research staff, given their central role in the activities of higher education institutions. Policies of human development, especially with regard to recruitment and promotion, should be based on clear principles and well defined objectives. They should stress the need for the initial and in-service training of academic staff, including pedagogical training, and on more rigorous mechanisms for the selection and training of persons for administrative and governance positions in higher education.

The quality of students poses formidable problems, especially in view of mass enrolment, diversification of study programs, and the current level of funding of higher education. Under these conditions and constraints, governments and higher education institutions have adopted varying solutions. There is general consensus that the quality of students in higher education depends primarily on the aptitudes and motivation of the graduates of secondary education who seek to pursue studies at a higher level. Hence there is a need to re-examine such issues at the interface between higher and secondary education, student counselling and orientation, as well as a need to foster among students the notion of civic responsibility towards society.

The quality of physical and academic infrastructure of higher education is important in order to assure the teaching, research and service functions as well as the institutional culture which is essential in "keeping together" the highly diversified and often physically separated higher educational institutions. Capital investments in infrastructure of higher education—from campus access roads, research
laboratories, libraries, to "information highways"—should be seen as "public works" which are an integral part of the overall efforts towards modernisation of the socio-economic and cultural infrastructure at the local, regional and national levels.

Quality assessment—through self-evaluation, peer-evaluation, and external evaluation is essential in searching for solutions leading to enhancement of quality in higher education. It is important that such evaluation should not be carried out only from a financial perspective nor should it be related mainly to those aspects of the overall functioning of higher education institutions which lend themselves more easily to quantitative measurement in the form of quality indicators. In particular due attention should be paid to the observance of the principles of academic freedom and institutional autonomy. However, those principles should not be invoked in order to militate against necessary changes or as a cover for narrowly-interpreted corporatist attitudes and abuse of privileges which can, in the long run, have a negative effect on the functioning of higher education.

The internationalisation of higher education is first of all a reflection of the universal character of learning and research. It is reinforced by current processes of economic and political integration as well as by the growing need for international understanding. The ever-expanding number of students, teachers and researchers who work, live and communicate in an international context attest to this trend. The considerable expansion of various types of networking and other linking arrangements among institutions, academics and students has also been facilitated by the steady advance of information and communication technologies.

International co-operation should be based above all else on genuine partnerships and a collective search for quality and relevance in higher education. The deterioration of functioning conditions in higher education institutions, particularly in some developing countries, calls for international solidarity and support. In this context, it is important to promote those programs and exchanges which can contribute to reduce existing asymmetries with respect to higher education between industrially-developed and developing countries to facilitate access to and transfer of knowledge, and to alleviate the negative effects of the brain-drain.

The Role of UNESCO

The trends and challenges facing higher education and its possible responses to them have direct implications for the work of UNESCO. They call for:

- reinforcement of the role of UNESCO in the development of higher education and research, in its capacity as the specialised agency of the United Nations system which covers these fields within its spheres of competence;
- strong commitment of the Organisation to those basic principles and values which should guide the shaping of policies and strategies for change and development in higher education, notably: increased access with due attention to various aspects of equity, enhanced relevance and quality;
- promotion of diversity and due attention to the observance of academic freedom and institutional autonomy;
- focusing UNESCO activities, in the field of higher education, on promoting international co-operation, with particular emphasis on support for the development of higher education and research capabilities in the developing countries.

The development of education, including higher education, through international co-operation has been a major field of action of UNESCO ever since its foundation. Achieving basic education for all constitutes UNESCO's priority in the field of education, as reiterated by the World Conference on "Education for All" (Inter-Agency Commission, WCEFA, 1990). This goes hand in hand with the need for the renewal and advancement of education at all levels, including higher education which has acquired a particularly important role in modern society as a key element and driving force for sustainable human development as well as in terms of its responsibility towards education as a whole. UNESCO will consequently urge governments and other national and international bodies, institutions and organisations to consider higher education as social, economic and cultural investment and to create adequate conditions for its functioning. At the same time, aware of the difficulties encountered by national, regional and local authorities, UNESCO will continue to encourage international cooperation in areas which will improve financial conditions for higher education and increase quality and effectiveness in policy-making, governance and management.
UNESCO's agenda in the field of higher education will continue to favour broadening of availability and participation in higher education. Making higher education "accessible to all, on the basis of individual capacity" as stipulated in the Convention against Discrimination in Education adopted by UNESCO in 1960 and reinforced by subsequent international covenants, remains a major concern of the Organisation in the face of continuing disparities, particularly between the developed and the developing countries.

In line with the concurrent trends which converge towards the need for rethinking and reform of higher education systems and institutions, UNESCO is focusing its action on relevance and quality as the key features of foresighted higher education policy. It is UNESCO's position to promote diversity among higher education institutions and systems which it regards as an important asset of academic life and as an important prerequisite for the advancement of knowledge and the preservation of national and local cultural identities. Furthermore, while stressing the need for systematic, national and international development of higher education, UNESCO places emphasis on the need to pursue efforts towards further differentiation of study programs as the means to tune higher education more effectively to specific national and local needs, while not losing sight of the universality of knowledge and of the paramount criterion of quality.

UNESCO will make further efforts to respond to the essential prerequisites for informed decision-making as a necessary basis for monitoring and tracking change and developments in higher education, and to assist Member States and their higher education institutions to develop mechanisms and methods for quality assurance and evaluation. In meeting this responsibility, the Organisation will continue to decentralise such activities to its regional offices and centres, in order to work more closely with relevant partners in the field of higher education. Enhanced diversity and differentiation in higher education and concern for the development of effective instruments for policy-making also require the Organisation to pursue its work in this field. This includes improving the coverage, reliability, concepts and definitions of statistics and indicators in the field of science and higher education.

Particular importance will be attached to promoting the principles of academic freedom and institutional autonomy as basic prerequisites for academic life. In view of the need to set internationally accepted principles and standards in this regard, UNESCO will cooperate with Member States, with non-government organisations of higher education and with the academic community at large, towards reinforcement of these principles and for the enhancement of the status of higher education teachers.

In keeping with its constitutional mission, expansion of international co-operation will continue to be both the major objective and mode of action of UNESCO in the field of higher education. UNESCO's agenda in this regard is, while promoting co-operation worldwide, to search for more effective ways to contribute to the strengthening of higher education and research capabilities in developing countries as a means of reducing the educational and knowledge gap between various regions of the world.

The UNITWIN/UNESCO Chairs Program, launched in 1991 as an international plan of action designed to reinforce networking and other linking arrangements among higher education institutions at the inter-regional, regional and sub-regional levels, pursues these major goals. It encompasses a wide range of activities and flexible organisational and financing approaches. The Program attaches primary importance to developing mechanisms for the transfer of knowledge, adjusted to the relevant needs of the regions, countries and institutions of higher education concerned, and to alleviating external brain-drain.

The ultimate objective of the process of change and development in higher education pursued by UNESCO is a process which seeks the overall renewal and the shaping of a new vision of higher learning and research embodied by a pro-active university firmly anchored in local conditions, but fully committed to the universal pursuit of truth and the advancement of knowledge. It is a process leading to the emergence of a new "academic covenant" which should place higher education in all Member States in a better position to respond to the present and future needs of sustainable human development.

References

Keynote Addresses 51
Cultural and Educational Networking in a Changing World
Higher Education and Strategic Institutional Networking in Europe

Maurits van Rooijen
University of Westminster
United Kingdom

In this paper about higher education in Europe and the trends in institutional networking, I will give a personal vision, rather than an academic treatment. I mean it is not my intention to give lengthy and boring statistics on student and staff mobility in Europe and confuse you with long lists of programs with fancy names. Those who are interested in this type of information, will find no shortage of publications on this theme. I will limit myself to what might be called a view from the inside. I believe I am in a reasonably good position to present this view without a specific bias, but I understand any "personal" view should start with a brief introduction of the person concerned.

I am Dutch, and have been working for the past year at the University of Westminster in London as Director of International Education. Formerly I was Director of the European Studies Centre of the Erasmus University Rotterdam. Before that, I was a lecturer in Urban Studies at the University of Utrecht. In other words: I am one of those academics who has gradually seen their work drift towards administration and more-or-less by accident end in a senior management position.

As a postgraduate student and later as a researcher and lecturer, I have frequently spent short periods at other universities in Europe and beyond. Since 1987, I have been actively involved in the "Europeanisation" process of higher education in Europe. In the first instance, this Europeanisation process seemed to be just the introduction of a number of mobility schemes for academic staff and in particular for students of the European Community.

In all honesty, all these mobility schemes—programs like ERASMUS and LINGUA—were very bureaucratic and made an artificial distinction between teaching and research, and therefore tended to be less interesting for academic staff. Financially, they were completely unattractive for the institutions. However, they were a major success when it came to the way they were embraced by higher education institutions! Why? Because universities and similar institutions were anxiously waiting for the opportunities which these mobility schemes gave them.

Creating Institutional Networks

Personal networks have always existed, but institutional networks offer the foundation for long-term cooperation. Institutional networks allow higher education institutions to escape national restrictions. To give an example, the continental polytechnics could therefore start developing postgraduate programs together with British institutions. Within the national system, however, they would not have been able or even allowed to do so, since postgraduate teaching is a prerogative of universities in most continental European countries.

Also, the Brussels' programs enabled institutions to strengthen their profiles in specific disciplines. Some networks were created nearly by chance, but most institutions had explicitly or implicitly developed a clear strategy, carefully choosing the right partners abroad. Mobility therefore has been not so much an end, but a means to establish one's international position—and prestige—in a particular academic field.
Improving the Quality of Teaching

Higher education has to respond to the needs of modern society. The curriculum should be more international. This is not just a matter of textbooks, but greatly helped by student mobility and staff mobility. Institutions were or became aware of this. In this sense again, the programs were a means of achieving it.

The reason why I stress that achieving mobility, in some respects, was a means rather than an aim, should be obvious. Student mobility is at this moment only 5%! For politicians this means failure, since they set a target of 10%. But seen from a higher educational point of view, much more important is that many courses have become more international due to this staff mobility and the presence of foreign students, even if their number is relatively modest. This facet of internationalisation of the curriculum will be strengthened in the future, now that programs are going to include more activities like the Jean Monnet program, establishing “European” chairs. Furthermore, the programs did lead to the establishment of more-or-less stable European networks of higher education institutions.

In my opinion a highly important step in this process is that certain networks have developed into consortia. For example, a consortium for Business Schools such as CEMS, where only the best business school of each European country is invited to join. This group can protect and control the market of business education, even partly the lucrative MBA market. I have attached some quotes from a brochure of the Copenhagen Business School to illustrate my points. A consortium in a specific discipline—not just in business but in any discipline or field of specialisation—can do many things:

- student mobility;
- staff mobility with data base of expertise;
- define specific “European” curriculum with student mobility and relevant research project, which leads to a second degree—a European degree on behalf of the consortium on top of the national degree—very important in the diversity of Europe;
- conferences and publication series;
- joint research projects, bids for research money in Brussels; and
- negotiations about cooperation on behalf of all the schools with prestigious institutions outside Europe.

One should not be surprised that it is the business schools in particular which have taken the lead in this process. They exchanged students and staff even before the European schemes were introduced. They immediately dominated the Brussels’ programs in terms of numbers. They were among the first to establish the consortia. The reason is simple: the business schools were aware of the changes in the world. It is their business to know what will be required of their new generations of graduates.

For many, the European programs were ideological, to support the political European integration process, to create the new European citizen. But: what is precisely the European ideology, what is the political agenda of the European Union? In my view, politicians only try to control an integration process which takes place anyway. They want to give it direction by stimulating integration in the right areas and slowing it down, even trying to stop it, in other areas. The integration process is obvious in its economic context. Political integration has followed the integration process in the business world. But we should not forget that the integration process is also a cultural process, related, for example, to communication, entertainment, and of course education.

Focusing on higher education, I believe that, based upon the experiences of the last ten years, it is possible to define a number of stages virtually all higher education institutions in the European Union (up to a lesser extent in the EFTA countries) have been going through, though not all universities have yet gone through all the stages mentioned below.

1. Creating awareness among staff about the importance of the internationalisation process, mainly by using mobility grants.

2. Establishing, maintaining, strengthening and expanding international networks for student and staff mobility.

3. Closing the networks created in the earlier stage for outsiders, working with relatively limited number of partners in specific academic fields towards intensive cooperation in education and research, developing joint/double degrees, establishing consortia incorporating a clear research dimension, making joint bids for funding of educational as well as research programs, and jointly negotiating cooperation with institutions outside the EU.
It should be clear that those institutions which managed to gain a key position in the new consortia are setting the standards for the future, internationally and also nationally by using their international standing effectively. The consortia have joined forces to bid for money, and are more successful at it because they can refer to a rich experience with earlier projects, and have strength in joint marketing since they share expertise on more or less equal footing. In the future Europe, it is therefore not just specific universities which are likely to dominate the higher education market, like in the past at a national level, but rather there will be a limited number of consortia, specialised in specific academic fields. The position of a university is related to the roles it plays in a number of these trendsetting consortia.

At this moment, we see that while the process of Europeanising the curricula is still proceeding and more and more schools in Europe join in consortia, making a "national" university nearly an archaism, higher education is entering slowly yet a further stage. The European higher education institutions are, as it were, rediscovering the world. Slowly the Europeanisation process is changing into a true internationalisation process, by expanding the Erasmus schemes firstly to Eastern Europe, then to Scandinavia and other EFTA countries, then carefully to the United States, then to the republics of the former Soviet Union, to Japan, to South America. When this goes on, Europe might even discover Australia again.

What is the position of my own University, a British higher education institution, in this process?

As for every other institution, our position is strongly determined by our history. Founded in 1838 as the Royal Polytechnic Institute, for most of its existence it was predominantly London oriented. The so called Old Poly was a large institution for primarily the people of London. Even today half of its nearly 20,000 students are local part-timers, plus another 20,000 to 40,000 on short courses etc., making it the largest provider of this type of education after the British Open University.

But being a British institution also means that it always has received hundreds of international students per year from the Commonwealth Countries, and many American students on Study Abroad programs. In fact for many years the University of Westminster has run one of the largest Study Abroad programs, with recognition of credits by some 120 US universities. This year we expect to receive well over 200 American visiting students. For obvious reasons, few to no continental universities have these strong traditional links with Commonwealth and US, though some universities did have—gradually weakening—links with certain countries in the Developing World, often former colonies.

Let me now identify, in just a few words, some major differences between British universities, and in particular of course the University of Westminster, and most continental universities:

- **Language**—English being the new Lingua Franca in many fields.
- **Location**—central London, a leading economic and transport hub in the world.
- **Selectivity** before access, not after, so less a form of mass education than often the case on the continent.
- Related to the previous theme: *quality* of teaching, tradition of looking after students (facilities, services, e.g., health).
- Particularly for the University of Westminster, but up to a certain extent for many university courses in Britain: *vocational* character of its education. In other words, the nature of the education is such that graduates should get a job. The institution tries to achieve this by explicitly linking theory and practice: sandwich courses, placements, involvement of industry, enterprise schemes etc.
- **cosmopolitan** classes.
- **Price tag**—Higher Education in Britain is more businesslike than elsewhere in Europe, thought it is not "a business!" The "value for money" principle is generally accepted in British higher education. It is more expensive, and therefore needs to offer considerably more, not only in terms of quality but also in international recognition of degrees and international standing of British higher education in general. So as a final point I should add to this brief comparison:
- **International recognition** of its degree.

Given this context, it is not surprising that British universities, and certainly also my University, were relatively slow to enter the European programs. They felt less need for this than the continental institutions. They did not play a very proactive role within the newly created networks, fearing competition rather than seeing opportunities. But this has changed
in the last two to five years, despite a lingering scepticism towards anything European. Why scepticism? I see two or three important causes for this attitude. Firstly, because the world has always been larger than Europe for British institutions. Secondly, a certain amount of cum hoc ergo propter hoc. Painful changes in the British economic structure created mass unemployment and other problems, and exactly at this point the nation joined Europe. So therefore there is a tendency to blame "Brussels" as the cause of certain unpleasant developments, though in fact the role of Brussels was probably only highly marginal or even absent. Plus—and this seems something hard to swallow for the British—having to adjust to European standards, instead of what the British had been used to: the rest of the world adopting British standards. But I believe that now the ratio is winning from the intuito. I am convinced that, especially because of its history, British higher education remains in a very strong position, within Europe and within the world. This is one of the main reasons why I moved from the continent to London. And as yet I have no plans to move again.

To summarise: contrary to the politicians, I recognise the success of the mobility schemes, since they offer the long awaited opportunities for higher education institutions to internationalise themselves. The impact of these types of programs on the institutions, their teachings and their international behaviour, is clear and impressive. I also note that in particular the mobility schemes have given the networking of individual academics an institutional dimension. This European institutional networking is now entering a new stage with the establishment of consortia within specific academic disciplines or fields of specialisation. And at the same time, the European programs are expanding to other parts of the world, thus stimulating European higher education institutions to transfer the Europeanisation process to a truly internationalisation process. I predict that, especially given this new direction, British higher education will start to play a considerably more proactive role in this process.

• • •
Multi-culture Education: Imperative for Educating Citizens of the World

Lee C. Lee

Hong Kong Baptist College

Hong Kong

In 1959, Bertrand Russell explains at the end of his book: *Wisdom of the West*, why he left no room for “what is usually called the wisdom of the East.” He declared that “the two worlds have grown in isolation from each other, so that a self-contained account of Western thought is permissible. But there is another more compelling reason why one might do this. For in some vital respects the philosophic tradition of the West differs from the speculations of the Eastern mind.” He intimated that Western wisdom is based on Greek civilisation in which a philosophic movement goes hand in hand with a scientific tradition. It is this dual tradition that has shaped the civilisation of the West (Russell, 1959). And thus, it would be difficult to include the “speculations” of the East in the discussion of the wisdom of Western civilisation.

When this book was published in 1959, I was in graduate school in the United States and a great admirer of Bertrand Russell. Having had a sound British education in Hong Kong and an American education in the United States, I found no fault in the above statement. But now, three and a half decades later, I, along with many of my colleagues, find such thinking rather shocking, particularly by so famous an individual. This, however, well illustrates how our institutions of higher learning during that historical period helped perpetuate one perspective of the world and isolated our knowledge base within that sphere.

This change of my own perspective reflects the many changes that have taken place in higher education during the past few decades, particularly in the United States. Today I want to share with you some of my thinking about the importance of shared perspectives in the education of world citizens, using higher education in the United States as an example.

A first-class university addresses itself not only to what exists within the larger society, but also to what has been and what ought to be. Its task is to provide a range of options, philosophies, and tools for its students; it can be seen as both a centre of knowledge and learning, and as an enabler for its graduates, who are its link with the larger society and with the future.

In recent years, there have been many changes in U.S. higher education which have functioned not to serve the broader purposes of society, but to answer more specific demands. Large American universities have responded to a number of outside pressures with the result that most universities have, at the baccalaureate level, become better at producing skilled professional graduates than at producing graduates who have a broad, critical understanding of the world. In particular, the availability of funds and the demand for advanced research in the natural and physical sciences have been major contributors to a far-reaching trend toward specialisation. As more resources, both human and financial, have gone into technical and scientific research, fewer remain for other educational purposes. This trend is also evident in the social sciences and the professions, where it appears that universities have responded less to academic considerations than to the certification requirements of professional societies. In addition, the university reward system for faculty members has further reinforced the trend toward specialisation; decisions about tenure or substantiation are largely based on number of publications, and narrow specialisations can produce many “pot
boilers.” On a vast scale, we now have higher education with a narrow focus. Specialisation has gained stature, while the importance of a broadly-based education which was formerly unquestioned has become increasingly obscure.

In spite of this tendency toward specialisation, it is important to recognise the multifaceted nature of the university and the many possibilities which it still affords. Martin Trow (1970), in his discussion of desired changes in higher education, takes care to point out that while the university may concern itself with the requirements of external institutions, such as the medical profession, the military, or the business industry, it also has other obligations. At their best, he says, large, pluralistic institutions offer “a full range of academic subjects, some of which centre on the transmission of the high culture and are concerned less with public service than with the cultivation of sensibility and independence of judgment, a sense of the past, of the uniqueness of the individual, of the varied forms of human experience and expression in brief, all the desired outcomes of liberal education” (Trow, 1970).

As the swing toward specialisation has proceeded, one result has been that U.S. higher education has failed to recognise the very nature of its own culture.

The United States is a nation of immigrants. Racial and ethnic minorities are not only here to stay, but are an increasingly significant factor in many sectors of society. It is only in the relatively recent past, however, that universities have acknowledged that not all our immigrants came from Europe. Prior to the 1960s, American colleges and universities existed in an atmosphere of social isolation, which was almost exclusively white; the concept of the ivory tower was indeed suitable. The widespread belief in one American culture and one version of history was largely responsible for the “ivory tower syndrome.”

People who had come to the United States from all over the world, according to the melting pot theory, would shed the ways of the old countries and blend happily into one people. However, white Protestants, who were once the undisputed keepers of the dominant culture, failed to view the process of cultural mixing as a dynamic one. As William Greenbaum (1974) in his essay on the Rise of Pluralism expressed it, the white Protestants “assumed their own exemption from the melting pot. The rest of us would become acculturated, learning their behaviours and thought patterns” (Greenbaum, 1974).

There are two essential fallacies inherent in the melting pot theory. The first is that non-white Americans can, or should, become like white Americans and the second is that non-white people do not have cultural significance in the New World.

Since the 1960s the power of the old monolithic culture idea has begun to erode; clearly, white Protestants are no longer viewed as the sole guardians and definers of American culture. Increasingly, in both formal and informal contexts, there is a recognition that learning of behaviours and thought patterns goes both ways: the old mono-culture, or its remnants, influences immigrant and minority groups at the same time that those groups change and shape the mainstream.

These changes are evident in popular and mass culture, in the news media, the fine arts, and even in our dietary habits. The emergence of this new pluralistic society has also become increasingly evident in a range of institutions where change and innovation have begun a slow process of national transformation.

In various contexts, it has become clear that American culture is in fact many cultures and its history, many histories; failure to incorporate this truth in our social and educational structures has had unproductive and negative consequences.

Although the presence of large numbers of non-white people in the United States is not a new phenomenon, its expression in higher education is still incomplete. Formal recognition of pluralism in university curricula and policies began abruptly.

In the late sixties, following the initial gains of the civil rights movement and the integration of all-white southern campuses, racial and political confrontation erupted on northern campuses. A broad spectrum of issues and demands was raised during this period, but for our purposes here, we will concentrate on the issues centred around race and culture which led to the creation of the first ethnic studies programs.

Minority students felt that their influence, history, and culture had been excluded from university curricula and power structures. They maintained that the Euro-centred perspectives in academia were not relevant to their experience and demanded sweeping changes.

The impact of student demands was far-reaching. In his report to the Ford Foundation on Afro-American Studies, Nathan Huggins (1986) notes that Afro-American Studies courses were added even by schools at which there had been little or no protest. This fact suggests that there
was wide acceptance of the idea that higher education could no longer be Euro-centric in content. Like all other aspects of the movement for peace and civil rights, the demand for university reform by black students was national in its impact as well as local in particular manifestations. In some sense, the urge for change was everywhere; whether or not a campus had militant black students making demands, the urge for reform was in the air (Huggins, 1986).

Greenbaum (1974) addresses the importance of recognising pluralism on an institutional level:

The present period is the first in American history in which the nation's major institutions are reinforcing difference as a way of increasing similarity; it is the first time that the American assimilation process has been forced to strengthen diverse ethnic and cultural identities in an attempt to sustain a unified mainstream. (Greenbaum, p. 434)

While many of the changes that emerged from the turmoil of the sixties are valuable and important, the confrontational atmosphere may have had some long-lasting negative effects within universities. One such effect has been that, in responding to the demands of specific racial or ethnic groups, many universities did not deal with the larger educational issue. There were very few schools that systematically and effectively addressed the larger issue of ethnic studies and/or non-Western studies as a necessity to achieve a broad-based liberal education.

According to many commission reports, American higher education is in a disastrous state. Much of this crisis revolves around the clash of cultures and values. Many universities have expanded their curriculum by appending new courses in non-Western cultures or to include non-Western culture courses in existing general education requirements (as is being done in the University of California systems). Many in academia view this curriculum change as a decline in the academy.

Gerald Graff (1992) in a recent book, Beyond the Culture Wars, proposes that the current crisis in American education can be viewed as "the problems of success, a consequence of the vast superiority of today's university in intellectual reach and cultural diversity to the relatively restricted campus culture of a generation ago." He sees these unprecedented conflicts as reflecting the vitality of the academy. The "challenge is to turn these very conflicts to positive account, by transforming a scene of hatred and anger into one of educationally productive debate." Graff also proposed that the current debates confuse the goal of broadening the curriculum with the goal of achieving a consensus on the fundamentals of knowledge. "Achieving a common educational experience was confused with securing agreement on the values informing the experience. The common ground ended up being a narrow conception of the great books that, in fact, had ceased to be commonly shared, in either the academic world or the world outside" (Graff, 1992).

What can be gleaned from the U.S. experience? First, we must recognise that as the world becomes smaller, we must have greater understanding of "foreign" cultures and values regardless of whether we agree with the fundamental values of these cultures. We must recognise that Higher Education, regardless of nation, has an obligation to provide a broad base understanding of the diverse cultures of the world. It is important to acknowledge that "foreign" cultures and traditions are of interest not because they are curious or unusual, but because they are useful. The fundamental value of including "foreign" cultures in our educational offerings lies in the new perspectives which they afford on traditional education, indigenous cultures, and global issues. Such broadly-based education is imperative as technologies progressively decrease the size of our world.

Let us briefly consider what the graduates of a modern university face as they take on leadership roles in society. These graduates will share responsibility for an increasingly complex world, one in which technical knowledge and traditional wisdom appear to be at odds, a world in which national and corporate interests thrive alongside growing concern over global issues, and a world which is being transformed by the demands of population, the influences of trade, and the possibilities of technology. Clearly, technical or professional competency alone is not sufficient preparation for responsible social, political and economic participation. Neither is the ethnocentric understanding of Western or Eastern cultures adequate preparation for responsible citizenship.

On a more practical level, a university could be viewed as a microcosm in which people with differing religious beliefs and cultural and moral values communicate and interact on a daily basis. The success of such interactions depends, in large measure, on the extent to which the university fosters an atmosphere of mutual understanding, respect, and tolerance. Success at this microcosmic level should have consequences for university graduates as they take on
leadership roles in the macrocosm—that is, the world.

A university should, then, recognize the need to address possibilities beyond specialization; it should present an array of global issues, cultures and values for study and analysis; and it should acquaint its students with the process of weighing various sets of values against each other. Finally, it should provide the means and the environment through which its students can learn to think creatively and help them engage in the life-long process of becoming full participants in the complex process that is civilization.

To achieve this, we scholars from both East and West must believe that the requisite for quality education requires engagement and communication among scholars from varied cultures, disciplines, institutions and communities. If we want our students to achieve their full potential, we must provide an educational context wherein both Eastern and Western thoughts are presented with equal value.

We, as representatives from all over the world, can forge an alliance as equal partners to provide university students with the requisite knowledge, skills and attitude to become first class world citizens of the twenty-first century.

In this context, the Hong Kong Baptist College, soon to be a University, has established a new Institute at this historical juncture in Hong Kong to address, and hopefully to achieve, many of the issues and ideas that I have raised.

The David C. Lam Institute for East West Studies hopes to create a vibrant community of scholars from different disciplines, from different cultures, from different regions of the world. We hope to provide an environment wherein young scholars, both students and professionals, are nurtured by both East and West elder scholars, thereby creating a new generation of scholars. We hope to provide an educational context for Eastern scholars, as well as the general Hong Kong populace, to develop a deeper understanding of the varied cultures of the Western world and for Western scholars to develop a greater understanding of the varied cultures of the East. We intend to create forums for dialogue concerning research and societal issues among scholars and practitioners from relevant disciplines in order to create new perspectives from which to view the world. We hope to create and maintain long-term and short-term multicultural and multifaceted collaborative research projects among scholars within the Asia Pacific region as well as around the world—projects which will be useful for the world family of societies.

In sum, The David C. Lam Institute for East West Studies at the Hong Kong Baptist College intends to be a vital catalytic force to bridge East and West. In so doing, it hopes to play a major role in the discovery of knowledge world wide. We invite all interested parties to participate in this venture.

References


Mauritius, one of the three small islands collectively called the Cascarene Islands, is located in the South Western Indian Ocean. Lying about 880 kilometres to the east of Madagascar, which is the closest land mass, Mauritius covers an expanse of 1840 square kilometres. Nowadays, tourist advertisements around the world often quote Mark Twain (1897) on Mauritius. He is recorded as saying “you gather the idea that Mauritius was made first, and then heaven; and that heaven was copied after Mauritius,” (Twain, p. 619). Tourist brochures also call it an idyllic island and a paradise. For most of its history, however, Mauritius has not been a paradise. Most of its settlers came unwillingly as slaves, or were falsely lured as indentured labourers. Lal (1980), a scholar of Indian emigration, writes:

The realities of a new life soon shattered any idealistic picture the emigrants had of their promised land. (p. 69).

Now, although Mauritius is independent, it carries with it the marks of its formation. The elements of its population who came as French settlers, African slaves, Indian indentured labourers and Chinese traders, still remain separate.

With independence, Mauritius now deals with many powers in the world market. However, independence established neither economic independence nor a national sentiment. The possibility of class unity, rather than communal disunity, once existed, but faded. The possibility of a certain unity around the common language and its culture was raised for a time but it succumbed to the dominance of communal loyalties. Even though Mauritius offers steady economic progress, it has a fragile unity, and this progress depends on a market in which Mauritius has little influence, as well as an education system which is constantly being geared towards the needs of the economy. The "paradise" that Mauritius never was during either the colonial period or the immediate post independence period, but that it may have been for some sections of Mauritian society during the past decade or so, is now under threat as a consequence of its rapid and successful economic development.

This paper argues that the Mauritian education system, based on the British model, has been relatively successful in contributing to Mauritius’ recent success story. Now, however, that the economic frame is changing rapidly, and the country faces new challenges, the education system is under great strain. Under these conditions, the country has become even more vulnerable. Schools have always been important institutions in the social structure of societies. As the mode of production of various societies has altered so too have the social structures which depend upon it. Schools now more than ever serve the interests of capital, rather than those of the individual.

Education in Mauritius has always been geared towards the nation’s economy. The history of education during the French colonial period shows that education was provided on a very small scale. At the time, the economy had hardly been developed and the role of education was limited and oriented mostly towards the
production of a few administrators. The French colonial period also illustrates the extent of discrimination against blacks, coloured and women. That period of history depicts the reluctance of the colonial administration, which was dominated by the aristocracy and elite, to expand education on the island. When the British gained control over the island, the demographic pattern of the island changed. It was the period during which Indian indentured labourers and a small Chinese community came to the country. Despite the expansion of education, discrimination on the basis of creed, colour, race and sex persisted.

The colonial curriculum was in consonance with colonial economic and employment policies. In the British colonies, all higher appointments in almost all the services were, in effect, reserved for the British. The English educated natives found employment only as low-level civil servants. It was not colonial policy to spend on education for the masses. Mass education in Mauritius only became an issue when political power passed into the hands of the Indians in 1948. The main aim of education was to reduce illiteracy. It was believed that an expansion of schools and more access would help remedy the problem. Schools began to appear all over the island. Writing about Mauritian education, Meade (1968) explained that the country embarked on a policy of primary education for all, hoping that it would produce a literate and intelligent population. He went on to argue that:

the greatest handicap to successful education in Mauritius is that imposed by the multiplicity of languages in use. Children leave primary school in large numbers without have acquired anything worth calling literacy in any language though they have spent an intolerable amount of dabbling in all three.

In the post-independence period, the language issue remains an important one. After more than 20 years of independence, the Mauritian system of education has failed to make its entire population literate, but worse still it refuses to deal with the language problem which contributes to illiteracy in the country.

**Les statistiques montrent que malgré l'éducation gratuite au primaire comme au secondaire, neuf élèves mauriciens sur dix ne terminent pas leur parcours scolaire ... L'expérience montre que la quasi totalité de ceux qui échouent le C.P.E. sont analphabètes ou le redeviennent rapidement. (Le Mauricien, 20 July 1991)**

In spite of the fact that the language problem is, according to many linguists/educationalists, responsible for the high illiteracy rate, the Master Plan for Education 1991 has chosen to ignore it. The questions we want to ask are for how long will it choose to ignore it, who is this policy privileging and what are the implications for Mauritian development? Before answering these questions, we'll take a quick look at human capital theory in order to come to an interpretation of the situation in Mauritius.

**Education, Human Capital and Economic Growth in Developing Nations**

While the “renaissance” in the economics of education has largely been attributed to Schultz, as a result of his pioneering work during the early 1960s, there were some valuable contributions throughout the first half of the twentieth century. Strumilin (1925), for example, sought to investigate the role of education in national development. Walsh (1935) has been credited with being the first economist to test, in cost-benefit terms, whether certain classes of tertiary-trained professionals take into account their expected future earnings, and the delays in earnings as a result of extending their education, when considering the return to their investment in becoming qualified. He found that, for a general college education, the increase in earnings exceeded the cost of additional education but this was not true of higher degrees. Friedman and Kuznets (1946) published the results of a similar study on doctors and dentists. An important milestone was reached with the publication of Schultz’s work on investment in education (Schultz, 1961). Not only did Schultz incorporate education of the labour force into his aggregate input-output analysis but he also included earnings foregone or the value of his student time in his measurement of costs. He found that between 1929 and 1956 in the United States, education accounted for between 21 per cent and 40 per cent of the increases in national income, while between 17 and 33 per cent of income growth over that period could be attributed to increases in education per member of the employed labour force.

Schultz firmly believed that investing in education is very productive and he stated “by investing in themselves, people can enlarge the range of choice available to them. It is the one way free man can enhance their welfare” (Schultz, 1961, p. 2). Schultz illuminated the importance of “human capital”—to him and
many others, the answer to the various problems of the Third World was to instil the necessary skills and knowledge in the labour force.

Schultz's ideas about the importance of "human capital" became current in development thinking. Schultz (1961) and Denison (1962) provided convincing evidence that education was an important contributor to economic growth. Their conclusions were supported by a number of other studies during the period. The studies of Habrison and Myers (1964), Inkeles and Smith (1974) and Bowman and Anderson (1963) argue that a literacy rate of about 40 per cent is necessary but insufficient for a sustained level of economic growth. They contend that industrialisation and more rapid economic expansion cannot occur until 70 or 80 per cent of the population is literate. Implicit in this argument is the assumption that education enhances productivity and brings about economic growth (Maglen, 1990). Maglen examines a range of studies done in both developing and developed countries and expresses serious reservations on the relationship between education and productivity. Maglen concludes that:

"...neither time series nor cross country studies lend much support to the contention that increased education promotes the growth of labour productivity. (Maglen, p. 291)"

Crittenden (1992) in his article *Learning pays* agrees with Maglen but adds that the quality of education in mathematics, science and languages, rather than the number of years at school, has important economic consequences. Crittenden writes:

"Rigorous studies also show that economic productivity depends more on the extent and thoroughness of on-the-job training than on the amount of schooling. (p. 40)"

Crittenden's argument seems to imply that an education system should put more emphasis on producing people capable of being trained—in other words trainable rather than trained people.

In addition to the above criticisms of human capital theory, there are works which indicate the growing disillusionment of Third World countries with education as an agent of development.

Mark Blaug (1978) begins his review of education in developing countries by stating that the "golden days of the economics of education are over" (p. 73). In his special professorial lecture at the University of London Institute of Education in 1988, Blaug acknowledges the 1960s to be the "hey day" of the economics of education, reaching a peak around 1970. However, he also points out that it did not vanish after this time but that there developed a second generation of economists of education. They no longer accepted the social demand approach of educational planning or manpower forecasting. Neither did they show any enthusiasm for rate of return analysis or the income equalisation potential of education. Blaug also argues that:

"Education does not make a contribution to economic growth, not as an indispensable input into the growth process, as first generation economists of education used to argue, but simply as a framework which willy-nilly accommodates the growth process (p. 22)"

The view that education does not make a contribution to economic growth has also been expressed by other writers. Weiler is one of them. Weiler (1978) refers to the 1970s as "the age of scepticism" in the economics of education and speaks of the failure of education to fulfil its early promise. Educational expansion does not necessarily make people or countries more prosperous. Instead it may, and often does, leave the former without jobs and the latter with increasing burdensome claims on public funds. Weiler (1978) writes:

"Not only has educational growth failed to achieve greater equity in the distribution of income, goods and statuses, it seems in many cases to have contributed to reproducing and further consolidating the inequalities already existing in a given society. (p. 180)"

Reproduction and consolidation of inequalities is but one of the various problems that resulted from an expansion in education. Dore draws our attention to other problems.

Dore (1976) speaks of the inability of the labour market to absorb the "educated unemployed." Developing countries were faced with problems such as unemployment, economic instability, social unrest and increasing poverty. Dore explains that schooling had become a ritualised process of qualification earning. Primary schools had become institutions where "one competes for an exit visa from rural society" (p. 71). The function of the school seemed to be the earning of more and more qualifications and this tended to stifle initiative, individuality and creativity. The drive towards modernisation and economic development in developing countries resulted in what Dore calls a "diploma disease."

"Education has also been described as "the
great training robbery," which ensured a Western model of development, most of the time inappropriate to the developing countries (Berg, 1971). D'Aeth (1975) stresses that a western type of schooling emerged under colonial rule. Knowledge being imparted was imbued with a foreign culture and intended to educate a minority elite to help run the colony, and in all these respects divorced from the needs of developing countries (D'Aeth, p. 12). Carnoy (1974) speaks of an "educational and cultural imperialism" aimed at transforming the Third World into a neo-colonial relationship with the west.

Literature abounds on questions regarding the equity aspects of educational expansion, particularly in regard to subsidies and income redistribution. Carnoy (1974) and Jallade (1974) indicate that educational expansion actually increases income inequalities. Psacharopoulous (1977), Fields (1980) and Blaug (1982) provide evidence to show that the rich are benefiting more from educational subsidies. This situation undoubtedly heightens inequalities already existing in the system. More recently, Mingat and Tan (1985) showed that in developing countries "71% of the given cohort (those with primary or no schooling) share only 22.1% of the overall cohort resources, whereas 6.4% (those with higher education) get 38.6% of these resources" (Mingat and Tan, 1985). Jimenez (1986) explores further the question of who education favours the most and who profits most from the public funding of education and drew similar conclusions to those of Mingat and Tan. Despite these problems there is a continuing high demand for education in developing countries. This is because practically everyone is imbued with the faith that some education is a passport to something better, something which would enhance their position in society. The masses of the Third World countries are in search of an easier and better life and they place their hopes in an education which often does not answer their needs but which instead results in a large degree of disillusionment.

Poor people's inability to profit from any education whatsoever is often due to the fact that prevalent types of education are inappropriate and unsuitable for them. Many developing countries realise the importance of bringing about educational reforms and rendering education more effective for each and every citizen but, as Simmons (1979) points out:

... Educational reforms of a genuinely far reaching nature encounter major obstacles wherever attempts are made to implement them. (p. 1013)

It is very important that participation at a grass root level takes place if reforms are to be implemented successfully. Simmons also stresses that very often the:

Lack of participation by the intended beneficiaries along with the political clout of those with vested interests in the status quo, combine to block effective educational reform. Unless the beneficiaries of these changes are themselves enabled to help plan and implement reform, and until constituencies are formed to counter the inertia of the status quo, the existing inefficiencies and inequities of the educational systems in developing countries are bound to perpetuate themselves. (p. 1013)

The notions of inequities and inefficiencies are also dealt with by Paulo Freire (1985) who in his work The Politics of Education argues that it is vital not to think of education as independent from the power that constitutes it because doing so would imply reducing it to a world of abstract values and ideals. Freire states that "... a society that structures education to benefit those in power invariably has within it the fundamental elements for its self-preservation" (Freire, p. 170). He goes on to say:

... forces that mould education so that it is self perpetuating would not allow education to work against them. This is the reason any radical and profound transformation of an educational system can only take place when society is also radically transformed. (p. 170)

So if Mauritius society remains untransformed, the ongoing restructuring of education will only provide a semblance of change.

The notions of "self preservation" and "self perpetuating" evoked by Freire indicate that there are within most peripheral countries certain elite groups who often play the role of intermediary agents in the asymmetric interaction processes with the dominant nations, thus ensuring their own position. Mauritius is no different from other Third World countries, since its population as well as those in power (the elite) are convinced of the positive aspects of increasing amounts of education. This brings us back to the concept of "human capital" as popularised by Schultz and Denison.

The use of the concept of human capital in Mauritius takes us into complex issues. Human capital theory, in the form developed since the early sixties, is derived from an analysis of the economy of advanced nations. Yet Mauritius belongs to the marginal, the underdeveloped, the periphery, the "other." Human capital policies change directions, as Pusey (1991) points out for Australia. But Mauritius, as a colony, had no
national direction. Nor, as this paper argues, does it have a clear one now. Yet the concept of human capital, of human beings as a resource, is a very apt one for Mauritius. The changing economic frame of Mauritius, as well as the position it has carved itself in the new international division of labour, calls for a diversified Mauritian manpower. Mauritian schooling is now expected to produce and train the labour force required by the international capitalist system into which Mauritius is continually integrating.

From a Sugar Bowl to a Knitting Island and Now to an Information-Based Economy

During the early colonial period, when Mauritius' economy started expanding, labour was needed mostly for the sugar industry. There was, at that stage, no need for a highly skilled or educated man power. Slave labour, as well as indentured labour, were in a sense regarded as the capital. Economists such as Walras and Von Thunen recognised the reluctance of some economists to categorise human beings as capital but argued that in pure economic theory human beings must be treated as capital and that in doing so it was still possible to preserve the "freedom and dignity of man" (Von Thunen, 1875, p. 5).

However, the history of Mauritius indicates that both freedom and dignity were rarities during the early colonisation period of Mauritius. That episode of colonialism can be regarded as one in which "otherness" in a general way was an expression of definition and identity by a particular group of people, defining themselves by difference with another group. But "otherness" gains a new significance, especially when we look at how the growing colonised economy demands new skills which in turn lead to a certain hierarchy within the population.

The Restructuring of Education and "Knowledge Workers"

The first National Development Plan (1971-75) after independence in 1968 summarises the government's development strategy:

The most important resource of Mauritius is its manpower. A well motivated labour force possessing the requisite mental and physical skills for a modern economy is the most valuable economic asset ... There is a need to create the skills required to meet the demand generated by prospective economic development. This would require a change in the quality and content of education from its present generally academic emphasis to more technical and vocational orientations at all levels.

The reality of Mauritian education, however, demonstrates that no fundamental changes took place. It it only recently, more than 20 years after it had been mentioned, that technical and vocational education has really begun.

Education in Mauritius, like in many other parts of the world, is regarded as a wealth generating activity. It is seen and discussed in terms of its contribution to the national cake. The Master Plan writes:

A major achievement of the system has been that it has provided the greater part of the manpower required for the first stage of Mauritian industrialisation.

The first stage of industrialisation, which was highly labour intensive, has to a large extent absorbed a number of people with very little education. The schooling system could afford to eliminate a large section of the population at an early age and the manufacturing industries absorbed many of them like a sponge. But now that the country is moving to a "second stage of industrialisation" and adopting more capital intensive techniques, it can no longer afford to produce large numbers of illiterates or dropouts, hence the need to restructure education. The restructuring is evidenced by the proposals of the Master Plan 1991.

The Master Plan 1991 suggests the introduction of a nine year schooling system to replace a six year one. Previously, if students failed at the end of primary school, they were not given access to secondary school and were made to drop out from the system around the age of eleven. With the new plan, they will be able to go on for nine years after which they will be channelled to technical and vocational education. The changing economic frame and the emerging tight labour market in Mauritius cannot afford to let its manpower go to waste. Not only is it concerned about avoiding waste of manpower, but also concerned to produce "knowledge" and multi-skilled workers.

The Master Plan (1991) writes:

The education system will be called on increasingly to provide the managers, the professionals, the scientists and the technicians who will be required for the new phase of industrial development.

Mauritius is becoming more fragile in the post GATT era. It is running the risks of losing its
protected markets for its woollen garments and its sugar. The emergence of new blocks such as NAFTA, ASEAN and the European economic union, as well as the new tigers of South East Asia, are additional threats to Mauritius. And now, Mauritian politicians and policy makers talk about hard competition, quality and production culture. In the wake of all these pressures, the labour market in Mauritius becomes very complex. The labour market created is one in the conditions of the collapse of space/time which Giddens (1990) refers to as the characteristics of high modernity and which other writers call post modernism.

Mauritius' labour market now calls for a highly skilled, adaptive and productive work force. Mauritian politicians and policy makers now put a lot of emphasis on the service sector and Information Technology. With this new emphasis comes an increasing degree of "intellectualisation." As Mauritius moves towards a high-tech society, it will experience a fall in demand for people who are qualified only for muscular and repetitive tasks. It is now to the intellectual or abstract knowledge that the planners look for the means to sustain Mauritian economic growth and development.

It is necessary for capital in Mauritius to turn to what Sharp and White (1968) call the "intellectually trained" to provide new forms of commodification. Sharp and White (1968) explain that this group utilise intellectual technique which derives from the intellectual culture rather than directly from practice and they add that it is disseminated through university and tertiary educational institutions. Whilst "labour power" still plays an important role in the creation of value within the system of commodity production, it is more of the brain/mental power rather than manual labour which is required.

**Conclusion**

As Mauritius struggles to shift from the "knitting island" to the "intelligent/network island," comparable to Singapore, it has to rethink its education system to make the restructuring effective. Comparing some of the newly industrialising countries (NICS) with Mauritius, Bheenick and Hanoomanjee state:

It would appear that one of the major reasons for the spectacular development of the NICS has been the high education level of the labour force. In Hong Kong in 1981, for example, only 10% of the labour force had no schooling, 37% had primary, which 19% of the labour force were university trained or trained in polytechnics. Education levels are equally high in the other NICS. In comparison, the educational level of the Mauritian labour is considerably lower (Quoted in Master Plan 1991, p. 2).

The relatively low educational level of the Mauritian labour force, as well as the heavy dependence of the country on oil, technology and basic foodstuffs, make it somewhat premature to describe the island as being on its way to an information based economy.

What is even more serious is that the schooling system is organised in such a way that it privileges only those who possess the cultural capital. Meritocracy is not erected on equality of access. In a country in which the common language, kreol and the ethnic languages apart from kreol, particularly bhojpuri, are scarcely recognised, success at school depends upon a family background in which English and French are available and their speech encouraged. But since the population of ethnic English and French is very small in Mauritius, this language policy does not appear as a communal differential of any significance. Cultural capital is linguistic capital in Mauritius and it is through this, that a stratum or class distinctions are made and reinforced through schooling.

The two European languages are vital instruments in Mauritius - they contribute to the production of "knowledge workers" that are badly required in the country. Even if Mauritius succeeds in sustaining its growth (it may be a jobless one) by developing its knowledge-intensive industries and an appropriate pool of labour, stability in Mauritius would be threatened. As the presently untrained labour in factories is shed off and replaced by multi skilled workers or machines, unemployment would start to rise and increasing marginalisation of sections of Mauritian society may result. The hope of an improved material life and apparent social mobility disappears, giving way to a possible social explosion.
References

My aim in this paper is to discuss a number of the administrative implications of the emerging forms of international electronic education and to suggest ways in which some of these problems can be resolved through effective networking.

There is, of course, nothing new in the concept of international education. Students have been travelling backwards and forwards from one centre of learning to another since at least the days of the ancient Greeks if not earlier, and this has always been encouraged, as living and learning in a new environment invariably broadens the mind and gives the student a new perspective.

There has been an amazing change in international education over the past decade, however, as the revolution in communications that has been so much a part of the late twentieth century has started to take hold on our society. Airfares are proportionately cheaper than they were a few years ago, and the convenience of access is much greater. The growth of international media has broken down many cultural barriers, and there is no longer any implication that someone is particularly daring or perhaps excessively wealthy if he or she decides to spend a few years studying overseas.

I have no doubt that a historian looking back from a point in the future may well declare the 1990s to be the era in which international education assumed a new importance in the thinking of Australian universities, but I do not think that the person making this statement will necessarily be looking at the statistics for the number of students who have moved from one country to another. While the 1990s have certainly been significant for the number of students who are studying off shore (and the number of overseas students who are studying in Australia) there seems little doubt that these figures will soon be eclipsed by the far more numerous body of students who will have the opportunity to study abroad, but who will be able to do so without having to spend one night away from their homes.

I am, of course, referring to the growth of electronic distance education, and the impact that this will have on international study in the future. The theory behind electronic distance education is not new, and it has been the subject of innumerable experiments over the past decade. I have myself spent a considerable time watching the emergence of this form of teaching, from its first beginnings as a frail and rather temperamental child that looked as though it could die at any moment, through its turbulent adolescence when it threatened to defy its parents, until the present time when it stands on the point of full, and one hopes responsible, maturity. I have been impressed, and perhaps a little frightened, at the speed with which this revolution has emerged, and I am uncertain whether we have the structures in place to handle it in our universities. The difficulty is that we seem to have concentrated so long on getting the technology right that we have allowed the other things that we need to run these programs to lapse. I have been told by those who are competent in the field that the technology to mount international electronic programs is now available, and that the cost is rapidly becoming competitive with face to face teaching. What is now required is the development of programs
suitable for this medium, and the recruitment of staff who are comfortable using it.

Within only one or two years, so I have been advised, it may be quite normal to have vast international electronic programs with an enrolment of perhaps several million students, each of whom would be studying simultaneously in different parts of the world. There is every possibility that these “mega-institutions” will absorb much of the teaching from conventional institutions, and will be structured to enable a student who was enrolled in one country to join a class conducted by any one of a number of others, and to participate in that class as though they were there in the room.

Nor need the student be limited to one off shore class or activity. There would be nothing other than a possible timetable clash that would prevent a person who was enrolled in an Australian university from participating in classes in say the State University of New York, the University of Cardiff in the United Kingdom, and at the University of Natal, in South Africa, one after the other, simply by switching channels. It would also be quite practical to have a student who physically attended, let us say, my own university in the west of Sydney, who was also taking classes in French Literature at the University of Paris, classes in Vietnamese from the University of Hanoi, and perhaps a few units in Law from the University of Hong Kong, and who transferred from continent to continent as one lecture ended and the next began.

The student would view the same lecture as his or her peers, would be able to ask questions in real time (and the whole world would hear them do it) and would complete examinations with the papers coming through the same electronic medium that gave instruction in the first place. The answers would be keyed into the system, and when the student had finished the whole file would be dispatched to the examiner in seconds. While the script could appear on the lecturers screen a few milliseconds after the exam, the marking itself would probably take time. Unfortunately there is no machine that can mark anything more complicated than multiple answer papers and so some poor soul will have to burn the midnight oil to do this manually as they do with face to face teaching. It will probably also be necessary for the lecturer to store the “manuscripts” (if one can use that term for electronic documents) within his or her own computer until it was convenient to mark them. The results, presumably, would then be sent electronically to the student’s home university to be added to his or her academic transcript, and count towards a local degree.

All of this is mind boggling, although I suspect that the day when it will actually happen is probably far closer than many of us realise. I asked a few people who were experimenting in this field when they thought that the bugs would be eliminated from the system, and when genuine teaching could begin. I was expecting an answer on the other side of the year 2000—perhaps something well down the track that might happen after all of us had retired.

It was brought home to me quite forcibly that electronics people think of development times of microseconds, not years. I was told that it would be quite possible to have Australian programs beamed regularly to our immediate neighbours in the Pacific by the end of this year, and for the systems who were prepared to spend money to support a wider infrastructure to go completely international by the middle of 1995. By 1996 (or earlier if suitable overseas partners could be found) it would be possible for institutions to teach in real time anywhere in the world, so that students could participate in lectures as they were given, irrespective of where either the lecturer or the student might be located. By 1998 there would be scarcely a developed country in the world where students could not participate in international education. Indeed by the year 2000 it would be so commonplace that no one would think twice about it. It would in fact be a most unusual student who was not “attending” classes on an international basis at some point in their career.

I do not think that there is any question of the technology being ready to make this happen—it is here at the moment as anyone who watched the recent Commonwealth Games can testify. There are still two things that are lacking, however. The first is an effective curriculum for international teaching, and the second is the lack of an effective administrative system to support it.

I do not wish to say a great deal about the curriculum today, although this is an important issue, and the fact that I am not going into it does not mean that it can be ignored. The question that I would prefer to raise with you this morning concerns the administrative systems that will be necessary to keep this invisible, but still very real university system operating, and the key to this I believe will be international networking.

I am disturbed to find that even in those universities where the development of the technology for international electronic education is proceeding strongly there still seem to be very
few plans for the administrative structures and strategies that will be necessary to maintain it once it is launched. I can only hope that as a practising university administrator I am not being unfair to my colleagues in suggesting that the general feeling still seems to be that many of these things are in the distant future, and that they will become issues when we are comfortably collecting our pensions.

I would suggest that this is a very dangerous approach to international electronic education, particularly if a system can be implemented as quickly as the technologists claim. Indeed I fear that unless universities from around the world can develop an effective administrative structure to cater for this new form of teaching within the next twelve months, or perhaps the next two years at the very most, the system will be unable to reach its full potential irrespective of its technical quality.

I indicated at the beginning that my task in this paper would be to examine a number of the questions that administrators will have to face as they prepare to enter the age of the electronic university, and to seek your advice on how these problems should be addressed.

I believe that there are five key factors that will have to be resolved by university administrators as they approach the age of the electronic university, although I would certainly not want anyone to think that these are the only issues, and that once this lot have been resolved everything else will be plain sailing. I have no doubt that new problems will emerge as universities become truly international, and that we may well have considerable tension between the long established culture of a traditional university and this new creature which transcends national barriers, and which in doing so threatens to destroy much of the old. We may also have a host of industrial issues that I will make no attempt to address here, and there could be quite a few social issues as well that we will have to leave unexplored.

The five areas that I wish to address this morning are;

• The structure of the university that may emerge through international electronic teaching;
• Course accreditation and credit transfer within such a university;
• Student enrolment and evaluation;
• The cost of providing the service; and
• Records management, and the transfer of information from one institution to another.

The first question to be addressed is how a university that provides international electronic teaching should be structured. I believe I can state fairly confidently that it is unlikely that international electronic education will be provided without a major input from the existing universities, although the cost of establishing a truly international teaching program may well be beyond the resources of any one institution, irrespective of its size. Even if it is not the case, I doubt whether it would make good business sense for one institution to take all the risks that a gamble of this type will involve without the support of partners. If there is money to be gained, there is also money to be lost, and the losses could well be significant if the institution gets things wrong. There would also be numerous educational disadvantages in acting as a single provider, and this, I think will encourage the growth of networks. No institution can be strong in everything. If it is to provide a balanced program it must link with others who can make good its deficiencies, particularly as this is likely to become an extremely competitive business.

There is another factor that will operate against single providers as well. I have no doubt that a single off shore provider would find it very difficult to justify its position politically. It would be very easy to fall foul of the government of the countries to which programs were beamed, and to be accused of a form of educational “dumping” that no government could tolerate. It is also hard to imagine that local universities would keep silent while this was going on either, particularly if they found that their best students were deserting them for programs from overseas. I think that for these reasons we would be safe in assuming that, in its formative years at least, international electronic education will be shared among a consortium of universities, with at least one of the partners based permanently in each of the countries that received the programs, and with a guaranteed minimum of local content. Without this I cannot see any of the major providers getting inside the door, much less being able to establish themselves in niches within this new industry.

The need to establish partnerships for political purposes, with an agreed airtime and with a guaranteed proportion of local content, suggests that the organisations that are formed will at least commence as consortiums of equals, where each partner plays a definite role, and will be responsible for delivering as well as receiving programs. While all may not offer the same number of programs, all would have an equal voice in the operation of the network. This in turn will require mutual co-operation, and I
believe that agreement on this would be essential before anything further could be done.

The use of interactive video among equal partners (I cannot see any alternative to interactive video as a teaching medium) would be a matter of reciprocal sharing—and this in turn would involve negotiations to determine the programs that each of the partners should offer.

An economic rationalist would no doubt tell us that international sharing gives an excellent opportunity for institutions to rationalise course offerings, and that perhaps only one member of each consortium should offer a particular type of program. Thus if University A is strong in Law (whatever “strong” may mean in this context) then it should offer all Law courses. If University B is strong in Science, then it should offer all Science courses, and so on. I feel that such a rationalist approach could be a mistake, and may perhaps become a serious red herring when international teaching becomes fully established. Even assuming that one could ensure that University A was “better” in a particular field than University B—and it would be a brave man who would make this judgment—the fact that University A is superior does not mean that University B’s programs are worthless. Indeed it may well be that the courses offered by University B would be far more valuable for certain students than the state of the art programs offered by University A. One would hope that ideally no member of an international consortium would be discouraged from offering any program that it deems appropriate for this medium, if it can be accommodated within the bandwidth of the system.

Our economic rationalist friend would almost certainly tell us that such gross duplication would be the first step to disaster, and that firm control would be necessary to stop members competing with each other. Firm control, on the other hand, may tend to drive the partners away from each other, rather than to bring them closer together, and a tightly run consortium, while great in theory, may never get off the ground. Fortunately there are four factors inherent in international education that will act as a brake to prevent this chaos and will probably make dictatorial control unnecessary.

The first is the fact that it will simply not be possible for each institution to offer every program in its catalogue by electronic means. There are certain courses that simply do not fit this model, and which will always have to be taught face to face. This includes those courses with a high practical component, that require close support from an instructor who is literally at one’s elbow, and also those courses that require “hands on” experience that our current electronic systems cannot provide. The mind boggles at the concept of a student nurse undertaking an examination of a patient by interactive video, when this medium simply cannot provide all of the information required.

There are other courses that depend on group interaction for their effectiveness, and these are also unlikely to be offered electronically. While some degree of group interaction is certainly possible with modern interactive video, as for example in a postgraduate seminar, it is still not quite the same as having a group of students in eye contact with each other in the same room.

There are other courses which a university may simply elect not to offer on the grounds of expense. This could also be certain courses where an attitude rather than a skill is being taught—an attitude that requires the environment and feed back of colleagues and peers. There could also be certain courses that the university does not wish to broadcast to the world at large because of their sensitivity. There could also be courses that universities might perhaps be a little too embarrassed to offer for fear that a bad performance in such an open arena would damage their reputation.

In the final analysis institutions will have to prioritise the programs that they offer by electronic means, and select the most appropriate for international transmission. The point that must be remembered, of course, is that electronic education will probably not form the core business of the university for some time to come. There will still be regular classes to be taught in the traditional face to face manner, and these will perhaps still be in the majority during our lifetime. The subjects will be supplemented, but hardly replaced, by international electronic teaching.

The second factor that will prevent absolute chaos is the need for smooth credit transfer from one institution to another. Each institution that offers a subject will have to mark it, and distribute the results. This will not be without cost, particularly in an age in which students will be able to study at a multitude of universities at the same time. I assume that the current means of giving credit for units studied elsewhere will continue in the electronic age. This would mean that the institution that originally enrolled the student, and which the student is physically attending on a daily basis, would remain responsible for the award of the degree, while units studied elsewhere would be accepted for
credit at the discretion of the institution, as are units studied non-electronically at the present moment.

It is important to note that it is always the institution in which the student is enrolled that makes a decision on the acceptance of a subject for credit, not the student, and certainly not the other university. If an institution is dissatisfied today with the subject offered by a colleague institution it normally has no hesitation in saying that it will not accept that subject for credit towards a particular degree. The student may object as much as he or she likes (and some can be very vocal) but it does them no good. If the unit is deemed to be below the required standard, it is simply not accepted by the institution. Students are normally encouraged to make enquiries before they commence a unit at another institution, to ensure that it will be recognised by their home university. Failure to do this may prove very embarrassing for the student afterwards.

Gaining a decision on whether a course will be recognised is often a slow process, and the question that must be asked is whether these procedures would still be appropriate once an institution joined an international consortium, and the range of possible subjects expanded dramatically. I believe that this will be a key point for universities in the future. There would be little point in permitting students to enrol in units offered elsewhere (by electronic means or otherwise) if the results are not recognised by the home institution. At the same time it will be no easy task to give reciprocal credit on terms that will satisfy everyone. In the end there will probably have to be some universal standard, against which all units can be compared, although I fear that we are still a long way away from establishing that at the moment. I will have something more to say about this shortly.

The third factor that will prevent chaos is the question of cost recovery. It will be expensive to offer programs through an electronic medium, and there are few ways in which one can make economies. Because both the start up costs and the maintenance will be high it will be impossible to sustain courses that fall below a minimum enrolment. It has been suggested that the break even point is around 500 students paying fees that the average person can afford. Any fewer than this and the fees will either have to be extravagant, and perhaps price the unit out of the market, or the unit itself will have to operate at a loss. Institutions may well find that it does not pay to offer too many units, particularly as a poorly supported unit will take exactly the same costs to run as one that receives strong support from an international audience. If a unit fails to attract sufficient patronage I cannot see any institution persevering with it. I think that as the market sorts itself out most institutions will find it better to offer a few subjects—and to offer them well—than to waste time and resources trying to cover everything, and then doing it poorly.

There is another factor as well. There will no doubt be a great deal of scrutiny in the content of programs, and the reputation of the institutions as well as the course developer will depend on the quality of the programs that are offered. I have no doubt that peer pressure itself will probably be a strong regulator of units. One cannot imagine one’s colleagues, let alone one’s neighbouring institutions (if not the government itself) remaining silent while substandard programs go to air, and damage their own good name, as well as the reputation of the immediate provider. There can be few more public places than the airwaves of an international electronic university, and anyone who falls short will almost certainly be advised about it by his “friends.”

There is the possibility, on the other hand, that an interactive video consortium could form where the members are not equal, and this could lead to dominance by one or two partners at the expense of the remainder. This is a real risk, and the people who express concern about it have good reason to be worried. There are two strategies, on the other hand, that may reduce this danger. The first is that universities may well choose to belong to more than one consortium—indeed they would be very wise to do so, and the smaller the university the wiser the strategy. By being a member of more than one consortium (and I suspect that consortiums will spring up like mushrooms as international education becomes the norm) universities can spread their risks, and can avoid overdependence on the stronger partners in any one particular group. There is a price for everything, including institutional autonomy, and universities will no doubt protect themselves by retaining the right to withdraw from a consortium at any time (perhaps with notice) and by avoiding associations that endanger their own independence.

The second way in which universities can protect their interests in what may well become a shark pond, is to retain control over the equipment used to support the electronic teaching. I believe that this will be an important factor, and I cannot overstate the need for
protection. As international consortiums grow bigger there may perhaps be two strategies that ambitious institutions will use to put pressure on their partners. The first is the question of money and access to the system. I would be very careful if another, and perhaps much larger, institution offered to provide the equipment used for international education, and in this process retained the right of ownership. The arrangement would no doubt work until the system became established, or at least until the smaller institution had become dependent upon it. If the smaller institution then chose to withdraw from the consortium it could be placed in a very difficult situation should the legitimate owner deprive it of the equipment that had made electronic teaching possible, particularly if it had a large number of outstanding commitments.

The second strategy that an ambitious partner may choose to use to put pressure on its weaker brethren is the question of equipment compatibility. If an institution's equipment is compatible with only one system, than the institution is locked into that system whether it likes it or not. At the moment there seems to be a large measure of compatibility between existing systems, basically because most systems are using protocols which are in the public domain, or for which adequate translation software exists. Thus an e-mail message generated on my Macintosh can be read on your IBM clone without any difficulty, because the systems can talk to each other.

There are a number of limitations to commercial software, however, and there are a number of ways in which they can be improved—and I suspect that they will have to be improved if interactive video is to be a first rate tool in the classroom. Unfortunately every step away from the norm promotes incompatibility, and a consortium could end up with an extremely effective system that is quite useless for any work outside that body. This may well be the great danger with the next generation of electronic teaching—virtual reality using face mask and gloves, which is only just around the corner, and will certainly be with us by the turn of the century. An institution that chooses to invest in a nonstandard system to please its neighbours may well find it impossible to transfer to some other consortium later on.

I know that it is a platitude to state that we should aim for world wide electronic compatibility, particularly if we are aiming at a universal system of tertiary education. I have never seen this principle adopted voluntarily by electronic suppliers, unfortunately, and I fear that we may not see it in the case of electronic teaching either. Interactive electronic teaching will no doubt go far beyond the present range national television systems, and perhaps the first thing that must be aimed for by international educators is a common standard to ensure compatibility, that can be accepted by tertiary institutions irrespective of where they are in the world.

In saying this, I do not mean that we should all go simply for the same technical standards, such as the number of lines on screens, or the use of phase modulated signals, and so on. Each of these things is determined largely by the electronic standards of the countries concerned, and these matters are beyond our control. In addition to this, there are adequate electronic translation facilities, so that technical diversity—provided you do not take it too far—is by no means the issue that it was a few years ago.

What I am far more interested in is a standard length of program, with a set number of sessions to complete a unit, and a uniform structure to lectures or tutorials. I feel that we should be far more interested in a standardisation of purpose, and perhaps a standardisation of educational aims and objectives, so that a lecture in one system will achieve the same educational outcome in another. These issues, I would suggest, may be may more important than the mere technical specifications that so many people seem to worry about today. I can only hope that some agreement on these issues may be one of the things that will emerge from this Conference.

Let us leave this question to one side, at least for the moment, and assume that we have already agreed on a common system that allows us to interface with each other, and to teach each other’s students. How then should we structure an international electronic university—particularly a university that has no walls and little obvious hierarchy? My suggestion is that the best international university will be the one that has a structure that least restricts its members in their daily role. We need to remember that in the midst of all this high technology the normal face to face teaching of the university will continue, and will probably remain the major business. It would be a strange case of the tail wagging the dog if the electronic component became so strong that it interfered with the "normal" teaching and research of the institution.

Perhaps the best structure for an international university would be a voluntary association to which interested parties could
thus if a student wished to study a particular subject that was only available outside a particular consortium the home university would "subscribe" to that system on the student's behalf as a part of his or her formal enrolment. There would almost certainly be a cost involved, which in this enlightened age I assume that the university would immediately try to recoup from the student. Once this was done the student would complete the unit in electronic facilities provided by the university (I feel sure that electronic learning booths will be a common feature of our libraries in the future) and the university would eventually be advised of the result.

The advantage of a subscription system lies in the fact that the institution need not be immediately committed to all consortiums, but can assess its needs, can identify costs, and can make its arrangements accordingly. Apart from the fixed cost of equipment (which as I have indicated should certainly be owned by the institution, not by the course provider) the institution would pay only for what it "buys" on the student's behalf. If students in a particular year choose not to follow a particular program there is little additional expense, although there may well be a base fee to retain the status of "subscriber."

At the same time I do not think that subscriber status is necessarily the ideal, as there could be two advantages in being a full member of a consortium. The first is the possibility of distributing one's own courses through the system. The incentive to develop and produce effective international programs will almost certainly have other spin off effects within the institution, and will be a valuable learning experience.

The other advantage of being closely linked to a consortium is the sharing of knowledge and expertise that this makes possible. I have no doubt that we will all be gaining experience in this type of education for many years to come. There would be many advantages in having others nearby who could give aid and support when needed.

Let us get away from these matters, however, and draw closer to the problems of immediate management. I mentioned a few moments ago that the second area to be considered is the question of course accreditation and credit transfer. The potential for difficulty in this area is already enormous, and will be made much worse as our programs become truly international. In the past the recognition of subjects from other institutions has been comparatively easy because most students who claim credit have studied programs that are well known to their home institution, and they generally have a good idea before they start of both the contents of a particular subject and its
academic rigor. This will not happen as easily once we go international. The range of subjects will be enormous, and it will require an extremely close evaluation of just what is offered, to see whether it fits within the degree pattern of the student's award.

There are two solutions to this difficulty. The first—and I cannot say that I fully support this idea—is to restrict international credit to a nominated list of subjects. Students can do other subjects if they choose, but must be aware that the institution will not guarantee that they will be given full credit if they complete them. My great fear in this case is that students will tend to choose from a tiny pool of the subjects on offer because of the safe nature of the consequences, while there will remain a vast ocean of subjects that no one will touch because the consequences are so unpredictable. This would be a pity, particularly if the whole point of electronic international education is to expand the student's perspectives and to broaden opportunities without the cost and inconvenience of travel.

The second solution is perhaps a bit more draconian, but it could in the end be far more effective. Eventually I foresee the need for an international register of subjects, which will require each unit of a course to be assessed by an external accreditation authority before it can be recognised for credit transfer. The accreditation authority would assess the level and rigor of the unit against an international standard that it would develop in consultation with all universities who are using the scheme. Once the level of the subject has been assessed, however, the standard determined would be recognised by everyone. This would not mean that all institutions would have to accept that subject for credit transfer—it would simply be that in making a decision the standard determined by the international body would be one of the factors that could be taken into consideration. One hesitates to suggest the need for an international panel of inspectors (and they would be a busy group once the process got into its stride) and perhaps a system of voluntary registration of subjects, where institutions provide sufficient detail for a clear decision to be made, would be both cheaper and less traumatic.

There will also be a need for subjects to be easily comparable from one institution to another, so that a student who undertakes a subject by electronic education is neither advantaged nor disadvantaged when compared to his peers. While I do not think that there is any disagreement on this point, at least in principle, there seem to be few processes by which this can be done effectively. Indeed I suspect that many institutions are largely unaware of the structure of courses and the philosophy of teaching in institutions beyond their national borders, and hence are not in a position to make a valid assessment. I feel that this is something that should be addressed as quickly as possible. Once again, I feel that a permanent network to sort out some of these difficulties would be a valuable outcome from this conference.

Another area that must be addressed is the question of student enrolment and assessment in an international university. On the surface one faces absolute turmoil on enrolment day. In theory there could be several thousand students enrolled in one's own institution who are also taking subjects offered by other institutions around the world at the same time, and these may all be different institutions. It would be necessary for the students' "home" institution to be aware of each subject that their students are doing at other universities (and, of course, there may well be more than one subject or university per student). It would also be necessary to have a system that ensured that each of the institutions providing these programs is paid, and that the home institutions own student record system receives a result for each subject at the end of the semester that can be converted and entered onto the student's transcript. Viewed individually the whole situation could become an administrative nightmare, particularly when students withdraw from courses (either with or without penalty according to the rules of the particular institution), when a student changes enrolment from an institution in Germany to say one in Tasmania or in Uganda, or when the institution is chasing up an examination result from another university in a language completely unintelligible to anyone from the student's "home" office.

I do not think that the situation will be as bad as this, provided steps are taken to include these factors in our thinking right from the very beginning. This I feel is one of the key purposes of this conference. I would suggest that steps be taken long before the first program is beamed to ensure that the administrative procedures are in place, and that the system will function as intended. If this is not the case I fear that even the greatest courses, using the very best technology, will be wasted.

The first question is enrolment. I do not think that students should be allowed to enrol themselves in the programs offered by another institution (by electronic means or otherwise)
without the approval of their own university, and I think that this point will need to be stressed right from the beginning. All contact with the overseas university should be made through the home institution rather than by any other means. If this does not happen there is certain to be chaos when it comes time to prove results. I would suggest that it be made a firm rule that anyone who wishes to enrol in an electronic program offered by another university should do so as a part of their normal enrolment with the institution at which they are based. The institution should then arrange for the student to be enrolled in the program offered elsewhere, not the student. By doing this the institution will put itself into a position where it will be able to advise the student as to whether the unit nominated would be recognised towards the student’s degree, and it would also be able to negotiate the fees, and so on, that may be payable. Overseas institutions would also no doubt prefer to deal with other universities rather than direct with individual students as well.

Similarly if a student withdraws from a subject he or she should do so through their home institution, which would then advise the other university, and amend all records accordingly. If this does not happen, and if the student is allowed to make administrative transactions direct with other universities rather than direct with individual students as well.

The point of the exercise is not to make things hard for students, but rather to make them realise that enrolment in an overseas institution is a serious business, that has just as many ramifications as enrolments at home. No institution has the time or money to go chasing records when it comes time to dispatch the examination results, and students must be made fully aware of their personal responsibilities to both their home institution and the institution providing the unit. The fact that one of these institutions is a long way away can hardly reduce the student’s responsibilities.

Enrolment in a distant institution should trigger the system of payment, which again should be collected by the home institution, which has the student on the ground in front of them, not directly by the other institution. The home institution has powers over people who are tardy in making payments that a distant body does not have, especially when it is across the ocean. I believe that if a student fails to pay the fees that are due, he or she should incur the normal penalty of the home institution for unpaid fees, whatever that might be, as it is the home institution that will award the final degree. It should be the task of the home institution to collect moneys, and to forward them to the institution providing the instruction. In reality I doubt whether a great deal of cash will change hands, as the fees incurred by one institution for its students may well be offset by the services provided to others. This is another reason why finance should be an inter-institutional responsibility.

The same situation applies to examinations. One assumes from what one has been told that most of the examining will be done electronically, with a need for supervision of course, but without the need to transmit physical papers in either direction. I would suggest that it is essential that exam results should come back to the home institution (where they can be added to the students record), not direct to the student himself. There will be many practical difficulties in the interpreting and recording of results, and this makes it essential that the results come to the home institution first, rather than direct to the student.

There could be many other practical difficulties as well, and I will just mention a few. There will almost certainly be cases where the examination timetable will be out of sequence with the home institution, for example, and in some cases the consequences may be bizarre. A student who enrols in an Australian university in February may find he cannot commence an overseas unit until perhaps as late as April, and will then do the final exam in that unit in July or August. This would place the unit completely out of sequence with the exam results for the home institution, and could affect prerequisite requirements for the coming semester. Students may also have to wait for a considerable period before they receive results, or may find that their commitment towards one institution will be quite out of sync with what is happening at home. Many Australian students fail to realise that while they are enjoying themselves on the beach in January their international counterparts are usually busy with essays and assignments that are due on the first of February, and which they will have to complete as well if they are enrolled in these units. A number of sacrifices that people do not yet understand will be necessary if students intend to take overseas study seriously.

There will almost certainly be a difference in the rules governing the conduct of the exams, and in the rights of appeal and/or reassessment. One assumes that the only fair and consistent way to administer examinations is to apply the
rules and procedures of the institution offering that unit to everyone who is doing the subject without exception, irrespective of their location in the world. This may result in certain people doing exams at 2:00am in the morning, but this is really the least of the difficulties. A far greater problem could be conflict between the established rules and practices within institutions, and a sense in which certain students may feel disadvantaged by the process. Perhaps the only way in which this can be overcome is to have students sign a statement at the time of enrolment indicating that they are aware of the rules of the institution offering the course (which one hopes the home institution would have available for them before they are asked to sign) and that they have agreed to abide by them.

Another further difficulty applies to the interpretation of results. Just what constitutes a Pass or a Failure at the University of X and how does this equate with the home institutions standard of marking? It would be easy to record nothing more than the result that the overseas institution has supplied, but this could be misleading, particularly when translated into a transcript in the home environment. Yet how is this basic issue to be addressed? One can only suggest that each institution would need to be aware of matters of this type, and to negotiate an answer long before the units concerned were taught. It may be, for example, that a particular institution may say that it will recognise nothing short of a high distinction in a particular subject as the equivalent of a pass at the home institution, or again it may be that a near failure would be accepted as a credit in a rigorous unit offered by someone else. Each of these will require separate negotiation, and one can only repeat that it is essential that this be done before the unit is offered rather than after the results come in. Once again, I feel that this is a matter that could profitably be discussed among the participants at this conference.

One of the basic questions that is always raised when one talks about interactive electronic education is the question of cost. Yes, it is expensive. Yes, it does cost more than regular instruction, and Yes, someone somewhere will have to pay for it. At the same time the question of cost has been made a bit of a boogy man, almost as though it makes the widespread use of electronic teaching impossible. I do not think this is the case, and I would suggest that the final amount may be far less than many institutions believe. At the same time I suspect that there must be many institutions that have no real idea of what their costs will be, simply because an appropriate and realistic costing exercise has never been completed.

While I have no wish to comment about this in one way or another, there are at least two self evident truths. The first is that the actual cost per unit will vary considerably from one institution to another, and any set of figures produced for one university are of doubtful validity for its neighbour. It would be most deceptive to assume that because the University of X has estimated that its costs will be so much, the same will be true at the University of Y, or worse still that the costs could be extrapolated if various factors (such as the number of students) were changed. I think that this is a matter that each institution will have to work out for itself, and possibly disregard the figures of others.

The second point is that there are many fringe benefits that international electronic teaching will bring, and each of these must be included in the calculation. I will not spend a lot of time in explaining what these are, but I might suggest that a value be given to the publicity and profile that a strong electronic teaching program will generate, the benefit of establishing overseas links that may well bring physical students from overseas, and the teaching and research opportunities that may be developed for staff and students. Some institutions may well find it desirable to offer their electronic programs at cost, or even as a "loss leader" and recover their expenses through the fringe benefits.

I am not convinced that the cost of equipment is a major factor. It is expensive when one goes out to buy it, but if the cost is balanced out against the usage it is not the burden that is often assumed. The cost of the development of courses, on the other hand, can be substantial, and it is necessary to include all of the hidden costs in the calculation. Let us be honest—it will be expensive to mount each session. I have been told that in the United States one needs a staff of five in order to mount just one lecture—the lecturer him or herself, the producer (an essential element in this type of operation), two cameramen and finally at least one lawyer to defend you against all the strife you will get into from other people! Whether this will be the case in our part of the world or not, and I hope it will not be, there is little doubt that it will be expensive to run these units, and as the quality improves as a result of competition, the costs will probably go up as well.

There may be other ways of keeping expenditure down, however. I was amused when one person I spoke to suggested that there
should be a commercial break every ten minutes, with the announcement "This lecture is proudly sponsored by McDonalds® or whatever. I am certain that he was not serious, but the possibility of accepting external advertising is certainly there. It may well pay a book seller, for example, to display his wares to the captive audience that has been assembled around the world, or a major computer software manufacturer, or a manufacturer of students' clothing. There may also be the opportunity for the university itself to advertise, and it would certainly have a worldwide audience while it does so. There would also be obvious opportunities for the sale of video tapes, lecture notes, and for access to other types of information, all of which could bring in a profit. The difficulty is, however, that until the costing is done for each institution, no one really knows what the actual cost is, and no one can plan appropriately.

There are also a number of ethical issues that will have to be addressed in the administration of international electronic education, and I suspect that these may be much harder to resolve than the mere technical details. The question of privacy is a major issue, particularly the question of privacy across international boundaries. I made the statement earlier that the institution offering the course should be asked to send the results to the home institution rather than direct to the student. This makes sound administrative sense, and will ensure a minimum of inconvenience for everyone. The question that must be asked, on the other hand, is whether this is legal, and whether an overseas institution would really be prepared to take a risk in doing so. It may be that the laws of the country in which the institution is located specifically forbid an exchange of this type, and even if they do not, what would happen if the student raised a protest? There are many similar issues that one could mention, although I have no time to do so, although I do intend returning to a number of legal questions about international education before I conclude. I do feel, on the other hand, that all of these matters could form a valuable area for further discussion during our time together.

The next point that must be addressed is the question of morality. How can one be certain that another institution will deliver what it has promised at the time when it is required? It is easy to talk about morality among the world wide academic community (assuming that term has any meaning greater than what each individual gives it) or about the various codes of professional ethics. Businessmen, who have far greater reason to trust each other than we do, would never enter into a business arrangement without the full protection of the Law, and then make certain that they arm themselves with a big stick, just in case the Law proves defective. What weapon do universities have to make certain that their partners deliver on time and to the promised quality?

The answer of course is none, because in the past none was necessary. Universities operated largely in isolation, and where trust was necessary it was done largely on the reputation of individuals, who pledged themselves to as a surety for their institution.

We are now entering an era where the bounds of trust will need to be far stronger than those provided by the integrity of individuals, many of whom will never see each other face to face. One hesitates to suggest that there should be a lawyer in every lecture, with institutions lodging huge bonds against their failure to perform, with a continuous round of litigation to ensure that justice is done, and one hopes that this will not be required. What is needed is an element of trust between institutions that will make legal processes unnecessary. Trust is a strange thing, and I have no wish to define it here, yet without it there can be no future for international teaching. One hopes that a greater sense of trust in our colleagues is something that each of us will take back from this conference.

There are a number of additional matters to be discussed before I finish. The first is the question of the accreditation of subjects. My own institution has been developing a set of guidelines for the accreditation of electronic units which I would like to share with you. I would point out, of course, that as this policy is still under development it is by no means a final statement, and it should not be taken as the final word of my university, although it may give you some idea of the direction in which we are moving, and perhaps assist you to develop similar documents of your own.
University of Western Sydney

Draft of Principles Governing the Accreditation of Electronic Distance Education Programs

1. The accreditation of electronic courses should follow as far as practical the same procedure as is used for the accreditation of courses that are delivered in a more traditional manner. Any variation that occurs should involve some additional step or steps that cater for the unique features of this medium, without replacing any of our normal safeguards for the determination of academic rigour and course integrity.

2. Electronic distance education will require a four stage accreditation process:

• An academic evaluation of the course: This will follow the normal procedure of endorsement by the course advisory committee, FMAC, Courses Working Party, Academic Committee and Academic Board. The Course will be examined for its academic merit, the effective use of resources, projected need and demand, the sequence of instruction, subject content and so on, and will be assessed in exactly the same manner as any other program offered by the institution.

• A technical evaluation of the course: Once the course content has been approved, the course will be assessed for its technical merit, including the manner in which it will be prepared for use through an electronic medium, the ability of the institution to provide the resources need to prepare and/or deliver the course, and the ability of the course promoters to make effective use of these resources.

• A financial evaluation of the course: Once the technical aspects of the course have been approved the course will be assessed for its financial implications, with the promoters providing details of the cost, sponsorship and anticipated revenue, both to prepare the course and to offer it for a stated period.

• An audition: In which selected parts of the final product are examined for their technical quality by the agency transmitting the program prior to its deliver to students. (Nepean may or may not be this agent.) The audition will include an examination of any workbooks, aids or other material that will be supplied to students in association with the program—it will not simply be an examination of the electronic component in isolation.

Failure to achieve accreditation at each of these levels will prevent the accreditation of the course as a whole.

(NOTE: While these steps are described sequentially it is probable that the development of each stage will proceed concurrently, as a variation in one area will almost certainly have implications elsewhere. The order of accreditation will remain the same, however, so that courses will be first assessed for their academic merit, then for their technical quality, then for their financial viability, and lastly for their standard of presentation. A decision on whether all matters should be examined by one large multiskilled panel, or by four smaller and more specialised groups, would be made in the light of experience.)

3. Where accreditation by an outside agency (such as an international consortium) is required, the course must meet all UWS Nepean requirements before it is sent to that body for examination. While there is nothing to preclude prior consultation with an external accreditation authority, including the presentation of clips and segments, the course must not be submitted for an official evaluation by that body until it has been fully accredited by UWS Nepean.

4. To protect the University's name and reputation, no program that has been produced by UWS Nepean and carries its name or logo should be released for sale by another agency (or for sale to a potential customer, etc.) until it has been fully accredited by the institution. This includes programs commissioned by an external agency, as well as those programs originating solely within Nepean.

5. Where Nepean provides less than a full course sequence, (i.e. a single subject on
its own, a “stand alone” strand, etc.) that is not done in conjunction with any other institution, the four levels of accreditation mentioned above will apply. Where Nepean offers a program in conjunction with another institution, the Nepean component will pass through the normal accreditation process, but will be given provisional accreditation only, with the right to withdraw this recognition if the remainder of the program is unacceptable. Unconditional accreditation will be given only after the total program has been assessed. The purpose of this is to prevent Nepean being linked with a sub-standard program for which another institution may be responsible.

6. Where programs (or parts of programs) are “imported” from an external source, the program will be examined and accredited in exactly the same way as it would have been had it been prepared solely within Nepean. While Nepean may give due weight to the fact that a particular program (or parts of a program) have been accredited elsewhere, this does not exempt it from the Nepean accreditation process.

7. Subjects offered through an electronic medium must carry the same credit value, and attract the same benefits as the subject would have had if it had been offered face to face within Nepean. Thus a student who completes some subjects electronically, and others face to face, should receive equivalent credit for both, irrespective of the manner in which the subject was delivered.

8. It may be necessary to arrange for certain services to be provided by local agents (i.e., clinical teaching, practical work, tutoring, etc.). Where this occurs the service provided must be equivalent to the service that would have been given had the program been taught locally.

9. It may be necessary to produce a separate policy on Advertising in Electronic Courses (basically to cover the question of sponsorship of courses), a policy on Technical Standards, a policy on Electronic Ethics, and a policy on the Recognition of Equivalent International Standards when the institution commences to teach internationally through this medium.

You will see from this that UWS Nepean envisages a four stage accreditation process, the first of which determines academic quality, while the remaining stages assess the technical quality, the financial implications, and the standard of presentation.

I offer this as a model of what perhaps may be required in an international setting, and I would certainly appreciate your comments.

A second matter is the choice of subjects on offer. Let us assume that we have resolved all of the technical and administrative difficulties I have mentioned, and that we are now ready to start teaching. Just what are we going to teach? Is it possible to provide a range of subjects that will meet international needs while ensuring that the strict requirements of local registration boards are being met, or is it simply a matter of offering what we have always offered, and allowing others to take or leave these subjects as they see fit?

I hope that no one takes the coward’s way out by choosing the latter through default. International education offers us the chance to present some completely new programs in a way that would previously have been impossible. A basic question is whether it might not be better to completely divorce video teaching from regular classroom instruction. A number of people have noted that it may be a very difficult task to produce a good video within the framework of a conventional lecture. It would be easy to simply televise a lecture, but the resulting talking head presentation would hardly be the most effective educational instrument. A good video program, on the other hand, that used film clips, computer generated charts, specific camera angles, background music and so on, would be equally hard to produce in a lecture theatre before a live audience of students. Perhaps if a university is serious about using this medium, it may be better to close the lecture theatre for this particular unit, and to put the students who are physically on campus in front of screens as well. This would not reduce the interactive nature of
the production, as there would still be the opportunity for students to ask questions if the program was shown live, but it could substantially increase the technical quality.

Another question that will need to be addressed is the language of instruction. There seems to be an idea around (and I personally give it no support) that all instruction that emanates from an Australian university should be given in English. A moment's reflection will show how inappropriate this may be in an international context—indeed if we are to operate on the basis of the largest number of potential students most programs through this medium should perhaps be in Indonesian and in Mandarin. The language of instruction is an important issue which I do not think we should try to avoid.

What I think we will find is a need for simultaneous translation of lectures, particularly where the lecturer is not multilingual, so that the contents can be delivered in the language most appropriate to the audience, irrespective of the language in which the lecture is originally given. If we are going to operate on a "real time" basis (and I do not think that any other form of electronic instruction will be acceptable) this raises the need for simultaneous translation. This will require a new method of lecture preparation, however, and may cause problems to our academics. I have sometimes discussed the question of simultaneous translation quite unofficially with the health care translators from our neighbouring Westmead Hospital (a major teaching hospital in the Sydney region). I am becoming only too well aware of just how difficult it will be to translate the complex and technical terms that are used as a matter of course in a lecture into a meaningful statement for non-English speaking students. I have been told that if you wish to use simultaneous translators to provide a multi-lingual lecture, and want them to do it well, it is always advisable to provide a complete script well in advance to allow the translator time to examine the technical terms that will be used in the lecture. The translator may be well skilled in the language, but is probably not an expert in the subject under discussion, and may need advice on just what the words to be spoken really mean. If you would like an example of this consider the needs of a translator, who perhaps has a degree in Arts, but who is suddenly required to translate terms from Medicine, Law and Civil Engineering into another language, and to convert them without losing any of the original meaning.

There are few translators who are comfortable with this (although most do much better under the circumstances than one would think) and I would value your suggestions on possible alternatives.

There may also be quite a few legal unknowns in the administration of international teaching, (quite apart from forcing others to adhere to their contracts as I mentioned earlier) and we should certainly consider these matters before we become too involved. Apart from the question of state charges and taxes, there remains the question of how students should be reported in statistics, and whether these students should receive the benefits available to persons who are actually resident in the state. Most higher education systems throughout the world are heavily subsidised by their government, and for this reason charge a different fee for residents and non-residents. Would (or should) this principle apply if students are taught at a distance rather than in the local classrooms? I do not know the answer to this, although it might be valuable to find out. I suggest that it would be a great pity if the new developments in international education were to be frustrated simply for legal reasons.

There is also the question of copyright and the ability of institutions to police what others may do with their programs. There would be little to stop an overseas university from recording each session and then showing it over and over again with no further payment to the institution that originally developed it, perhaps at great cost to themselves. There is also the possibility of plagiarism in the production of programs, although I hope it will not be necessary to do as I believe one educational provider in the United States may be planning to do, and that is to incorporate a permanent logo in the bottom corner of the screen to prevent parts of programs being lifted and used elsewhere.

While I have no doubt that this matter can be resolved through mutual trust and goodwill, I can only suggest that it should be considered very carefully before programs are transmitted electronically. If we cannot do this, it may be necessary to look direct to governments to control the matter for us.

This raises another question that I have deliberately avoided so far, and that is the role of national governments in international electronic education. I do not think that any system to administer this work will last long unless it has the full support of its government, either directly through the provision of government subsidies, or indirectly by the government agreeing to look
the other way while the universities get on with their business. At the same time I feel that a great deal of PR will be required. The basic question, of course, is how should universities sell the concept of international electronic education to their governments—particularly if it is largely an unregulated form of education, as it would have to be in the case of most international programs—without causing concern at a political level? Governments, of course, have no doubt about the need for higher education, although they frequently view this sector from their own perspective, and link it perhaps to national economic, social or political objectives. Would governments be prepared to accept a massive inflow of higher education programs that are produced somewhere else, which may fall short of meeting national priorities, or worse still, may divert resources away from meeting these needs?

This is not an easy question, and there are no simple answers. I present it as a major problem, however, that will have to be resolved before this form of teaching can become effective.

I have raised a number of issues in this paper that I believe should be addressed as a matter of urgency. I can think of no better forum than this one for discussion to commence.

References
The Future of Knowledge and Subjectivity in Higher Education

Matthew Allen
Curtin University of Technology
Australia

Knowledge is at the heart of higher education institutions (for example, Scott, 1989, p. 7 and AVCC, 1992, p. 1). Whether expressed in research output (both pure and applied) or in student output (at all levels), knowledge is the core concept around which they have been organised in the modern era. Yet knowledge is currently undergoing a dramatic re-configuration (Lyotard, 1984, pp. 1-5) and thus it is this central core of higher education, as it is understood at the moment, that is the point of greatest destabilisation. Moreover these changes are not taking place within the established field, within the epistemological assumptions of modernity, but from outside that field altogether. As Lyotard suggested in The Postmodern Condition (1984), not only is knowledge changing but, at the same time, so too is what we assume knowledge exactly is and how it is valued, guaranteed and generally legitimated as truthful or useful.

Introduction

In this paper I will briefly explore two dominant trends, most obvious in the overdeveloped nations but also spreading into other parts of the world which are currently having significant impacts on our knowledge about knowledge. And, as they relate to higher education, I am particularly concerned with the way that the postmodern epistemology they produce affects our notions of subjectivity. The trends are, in short, the continuing information explosion and the trend within late capitalism towards hypercommodification. Let me start with two examples, one of each. For the first, I will quote from William Gibson’s Neuromancer (1984), a far better future of the present than I can produce:

Case’s [computer] virus had bored a window through the library’s command ice. He punched himself through and found an infinite blue space ranged with colour-coded spheres strung on a tight grid of random blue neon. In the nonspace of the matrix, the interior of a given data construct possessed unlimited subjective dimension; a child’s toy calculator would have presented limitless gulfs of nothingness hung with a few basic commands ... [Case] triggered a sub-program that effected certain alterations in the core custodial commands (p. 65)

None of this high-tech data robbery is taking place in reality. Case is “jacked into a custom made cyberspace deck that projected his disembodied consciousness into the matrix”; the matrix is a “consensual hallucination” which gives cyberspace the illusion of physical reality (p. 5). In Gibson’s cyberspace future/present, there is virtual reality to spare; it is impossible to tell whether the film stars are real or images; powerful people discard corporeal form in favour of an existence as data constructs; and computers are sentient. Information is all that matters—people are, at base, conduits through which information flows, eddies gathers and moves on. And there is more information than anyone, anywhere can hope to process. Information is not something that tells Gibson’s characters about the world: information is the world. Moreover, when millions plug into “simstim” and become, vicariously, the stars of Hollywood in today’s movies and television, the possibility and even the need for secure self-identity is seriously eroded (see, for commentary on Gibson, Bukatman, 1993).

The other example is much closer to our contemporary world, though we should ponder these easy distinctions between future-fiction
and present-reality. It is one of a series of advertisements for Murdoch University (see Figure 1).

It does not actually matter what this advertisement exactly means. Advertising creatives, unlike most academics, accept the premise that whatever the intended meaning of their work (and often that is not at all clear), the potential customer will read into the advertisement a variety of meanings. In the case of the Murdoch billboard, what matters is not so much the meaning of the advertisement but the meaning of having advertised a university in this manner. Whether or not these marketing exercises actually work (in some genuinely quantifiable way) is always open to questions of interpretation of results and, of course, to the capacity of marketing organisations to market themselves. Again, what is important is playing the advertising game. In the market-oriented world into which Australian universities have been pushed, it is not a question of whether or not marketing works, but whether or not other universities are advertising, that creates the pressure to join the game. Advertising is about corporate image and identity, a process of creating a collective subjectivity by constituting an audience, an addressee for these corporate messages.

The Mode of Information

What are the major points of interest in the rise of the mode of information? It may seem that information technology is simply more and better ways of doing what humans have done before with paper and pens, but there is a much more profound change at work, as signalled by the continuous debate and prognostication on

Every Murdoch lecturer has one.

It's what encourages our students to work so hard to achieve their best. Murdoch has the distinction of having the most highly qualified lecturers in Australia. They have minds like steel traps. The pleasure of knowing.

Figure 1. Advertisement for Murdoch University
the arbiter of truth. Reality has not disappeared in literal terms: rather it is losing its status and power within discourse as a way of legitimating and guaranteeing information to be valuable. As Lyotard (1984) put it, where once it was asked of knowledge "Is it true?" Now it is asked "Is it saleable?" (p. 51). Even that question (which is addressed below) might give way to a more openly subjective inquiry such as "How does it make you feel?" (Gozzi and Haynes, 1992, p. 220), or a question, technologically oriented, about the speed of transmission such that only fast things are knowledge (Ivy, 1988, p. 430). Hence reality, so long the constant of Western intellectualism, is now the variable which is most in question.

Since knowledge is but a particular expression of language or a series of statements within language, any changes that occur linguistically will also affect knowledge itself. Thus, because language has "a figurative, structuring power that constitutes the subject which speaks as well as the one that is spoken" (Foster, 1990, p. 14), it is in the creation and maintenance of subjectivities that the mode of information has its most dramatic possibilities. Now, in rational modernity, knowledge has been assumed to be a fixed object around which subjectivities are formed, so any change to the process of subject formation will also affect the way that knowledge is understood. The postmodern subject is not the autonomous subject idealised in the discourse of rationality, formed at a distance but in connection with an equally autonomous objective knowledge. The postmodern subject is not made whole and secure by knowing, or by using what he or she knows. Rather the postmodern subject is uncertain, constantly seeking to stabilise itself, even as the flows of information prevent this goal from being reached (Bauman, 1991; Lacoue-Labarthe, 1989). Think, for example, of the use of the Internet: if one is not connected then one's sense of self is reduced and even constrained. Moreover, one finds that sense of self, not in what one is, but in the way that one is addressed and addresses others. In other words, when operating in the mode of information, the self-referentiality of images and words positions subjects as nodes or way-points connected to others, rather than being autonomous and secure in themselves. As Poster (1990) put it, "individuals are constituted through their place in the circuit of information" (p. 136).

The Trend to Commodification

Let us now consider the new and increasing trend towards commodification. By commodification I do not simply mean commercialisation which, despite the assumptions of liberal educational philosophy, has always been a part of higher education in the modern period. Indeed it is a common mistake for those who argue that education should be for its own sake and not for some other utility, to think of recent changes in higher education as being the result of a new discourse of rational economic utility. Essentially, commodification refers to the increasing predominance of consumption as the primary aspect of the political economy of capitalism, which has now become the major economic system dominating the world. At one time, production was enshrined as the central focus and while much effort is being expended by governments, business and most of all workers to make capitalism more productive, all that production needs to go somewhere but the process of exchange in the market place. Now, however, virtually no form of human activity escapes from the processes of exchange in which nothing exists in its own right, but only as a commodity defined by the interests buyers and sellers have in it. Education is, perhaps, one of the last services to be commodified in this manner. Moreover, the commodity form itself is undergoing a shift in which the material basis for the product is no longer as important as the symbolic meanings which are invested in the product through commodification. The Situationists anticipated this development in their characterisation of Western capitalism in the 1960s as "the society of the spectacle" in which the production and consumption of the image of the commodity (as supplied, for example, by advertising) was more important to both the consumer and the producer and the economy as a whole than the product itself (Debord, p. 1983, 36). In this spectacular society, the exchange of meanings rather than actual goods and services is central to consumption. In such circumstances, goods and services become radically malleable in that the same physical thing can be turned into numerous different commodities by varying the meaning of the product. At the same time, producers cannot simply produce these goods. They must market them relentlessly, creating the audiences of consumers who will purchase their
goods and services, appealing to these customers not in terms of the physical exchange value of the products, but their symbolic or “aesthetic” exchange value (see Haug, 1986, pp. 13-39; also Wernick, 1991a).

Baudrillard thus concluded that capitalism, once organised in terms of the mode of production, is now giving way to organisation under the code of signification (see Poster, 1988, p. 29-56). Wernick’s analysis (1991a) of advertising in late capitalist economies further suggests that, because marketing is so central now to capitalism, commodities are never just commodities, but are always promotions, firstly for themselves and secondly for other commodities. The product has become its own advertisement (though never without help from other forms of promotion); in the process, at least in highly developed capitalist societies, “advertising … has effectively been universalised as a signifying mode” (p. 261). Advertising does not represent itself referentially like more traditional forms of signification but by an insistent pointing away from the advertisement to other images and words, rather than to anything real. Just like information technology, marketing makes explicit, depends on and celebrates the self-referential characteristic of language suppressed by the rational discourse under the rules of which modern universities have been created and maintained (Poster, 1990).

Commodification gives rise to new forms of subjectivity and a new understanding (in the context of education) of knowledge. Take, for example, the current debate on ‘quality’ which figures prominently in higher education policy and analysis at the moment (for more extended treatment see Allen, 1992 and Cullen and Allen 1992). It is a mistake to see the quality debate purely in terms of the absolute quality of universities (as referenced to some notion of a better, more enlightning education, as for example in Mayhew, 1990) or as concerned solely with providing a better quality product for business and industry. To do so would be to understand quality in modern terms, assuming that quality is a measurable thing, external to the discussions and debates about it. Instead, I would understand “quality” as a rearrangement of the processes of communication between business, universities and government so that education can become an exchangeable commodity. In short, quality is all about quality assurance, that is, promoting higher education in such a way as to keep its customers happy. Although not openly expressed, the government’s and many universities’ quality agendas are being set in terms of management ideas which, for example, assert that “Quality assurance really begins in marketing, where customer requirements and specifications should be defined and related to manufacturing capacity” (Goetz, 1978, p. 5). Central to this particular understanding of quality is the idea that “Everyone has a customer” (Juran, cited in Townsend, 1986, p. 4) and that quality is about perceptions, not reality. Yet, if everyone has a customer, then everyone is themselves a customer and, under this logic, the old distinction between buyer and seller in terms of the exchange of material goods collapses and there is no longer any distinct subjectivity associated with being either the purchaser or provider. Instead, as quality assurance mechanisms position everyone as a customer, subjects are formed for everyone by their submission to the commodity process of exchanging symbolic meanings.

And thus, like information technology, commodification rearranges the way in which knowledge is deployed in the process of forming subjects. Knowledge is not fixed and absolute, but relative to the particular set of customer relations at any time. For example, as Wernick (1991b) demonstrates in his analysis of academic curriculum vitae, they are no longer a statement of what the academic knows, but a promotional tool that allows the academic to construct a subject position in relation to those reading the CV (p. 160ff). Knowledge is not what a subject knows in some direct autonomous relationship of subject and object, without reference to other subjects, but a mechanism for connection through which customers can identify themselves to one another. Knowledge, which in modernity was construed as more or less objective, will become openly inter-subjective.

Conclusion

Education has functioned and continues to function as a major mechanism for making its students into particular types of subjects (Marginson, 1993, p. 37). In modern times, that process (which also applies to academics), has depended on the assumption that knowledge is a stable, absolute object against which a subject might be secured. The result might be a cultivated subject, as in Newman and other liberal humanists’ idea, or a useful subject, as in utilitarian ideal, or a revolutionary subject, as in Marxist ideal (for various expressions of these ideals, see Ball and Eggin, 1989). But what made that subjectivity secure was confidence that knowledge was legitimate. Through modern
narratives of emancipation and progress, useful, radical and civilising knowledge gained status and certainty, even as they superficially claimed a legitimacy by reference to some preexisting reality (Lytotard, 1992, p. 29-31). Under the influence of the mode of information, in which the modern suppression of the instability within knowledge expressed through language can no longer continue, the objective status of knowledge is put in doubt in the most challenging way. Modernity has so visibly failed to deliver autonomous, stable subjectivity (Crook et al. 1992, 210 and Smart, 1993, p. 12-15), that its very assumptions come into question, and information technology is at the core of this change. However the possibility that the mode of information might be a completely free and liberating place cannot be sustained in the face of the organising force of commodification, with its intersubjective formation of individuals as customers of one type or another. Here the subject is always thinking of and is always formed in relation to other subjects, creating a complex web of power relations between customers. Knowledge is not the determining agent or message, but the medium through which individuals interact with one another. The capacity for knowledge to be organised as if it existed external to the processes of intersubjective communication will no longer be possible. Indeed the separation of the university from the rest of society can almost be thought as an institutional metaphor for the notion of rational objective knowledge. Thus, perhaps, the autonomous university will not actually exist in the 21st century.

References

Partnerships in Training
Through National and International Networking

Jeff Gunningham
WA Department of Training
Australia

One of the WA Department of Training's key strategic themes is to create a world class vocational education and training system in Western Australia. In order to achieve this, we need to continuously compare ourselves with the best in the world through viewing best practice and via benchmarking. One of the most effective means of achieving this is through education/business partnerships.

Already, many OECD countries have recognised the strategic value of partnerships and are utilising them to the full in developing the potential of their education and training systems.

The significance of partnerships as a worldwide phenomenon is obvious in the following comment made by Tom Alexander, the OECD’s Director for Education, Employment and Social Affairs (June 1992):

"The world “partnership” movement has come of age; partnerships have become central to education systems, and their messages reverberate across the international scene.

Partnerships are viewed by the WA Department of Training as a key operational strategy and ANTA certainly view Partnerships as an important means of establishing a vocational education and training service which is more diverse and competitive.

AMTC is a good example of an organisation that has made a very definite commitment to the concept of Partnerships as a strategic platform for its operation. The same comment applies to the operating approach being pursued by the College of Customised Training. Both organisations often refer to "Partnerships" in their marketing information.

I feel sure, however, that both the AMTC and CCT would agree that in order to attract successful partnerships, it takes more than a few words in a glossy brochure.

For this reason, I will be placing a lot of emphasis in this paper on the means by which you establish the optimum environment for nurturing successful Partnerships in Training.

Partnerships—An Alternative Approach

Definition Types

Partnerships can take a variety of forms and can involve various parties, but the underlying purpose of the partnership is to optimise the use of limited resources, avoid overlap or duplication of effort, and to provide outcomes which are mutually beneficial. The relationship is more than the usual commercial arrangement between a provider of services and a customer - it is a genuine partnership where value is added to the operations of all participants. In other words, it is a win-win situation or an added value synergy.

Boot and Evans (1990) states:

"Partnership is where both parties establish a sense of worth and contribute in equal measure to a joint venture."

Another way of defining a Partnership is to describe the characteristics which Partnerships exhibit. The following characteristics are useful in assessing the effectiveness of a Partnership.
which fits my previous definition:

- Clear and common goals;
- Willingness to share resources, expertise and experiences;
- Catalysts, facilitators and visionaries;
- Formal agreement on project management;
- Flexibility with regard to changing circumstances;
- Clear and sustained outcomes from training;
- Recognition of training outcomes and skills;
- Open communication and consultation; and
- Having working relationships which are “institutionalised”.

I will use the Southern Cross University, in Lismore NSW as a case study. Davies and Hase (1994) discuss recent research on a variety of partnership projects. The main factors perceived to be fostering successful partnerships are:

- basing programs on an analysis of industry needs;
- trust and understanding between the partners;
- development of formal contracts between the partners; and
- involvement of industry in all phases of the process.

An analysis of one particular partnership (regarded eventually as successful) revealed that major problems arose due to:

- lack of written contract;
- lack of clear boundaries affecting the perceptions of roles and tasks;
- communication between and within the two organisations;
- lack of a steering committee to provide continuity and ownership within each organisation.

These issues have a clear similarity to the partnership characteristics outlined earlier.

Benefits of Partnerships in Training

Partnerships in Training can lead to efficient and/or effective utilisation of training resources and expertise, regardless of whether they are located within the public sector or private enterprises. Additionally, they can lead to provision of relevant training which matches the requirements of industry and can also be recognised externally. Partnerships have the potential to recognise all competencies in a training situation, particularly those acquired through experiential learning. They provide real and tangible benefits for the wider community. In many instances, local partnership initiatives are picked up in other locations within Australia and sometimes overseas.

Such partnerships respond to the challenges of operating in a de-regulated and open training market, as well as stimulating innovation in training delivery. They are mechanisms which respond to the corporate view of a growing number of enlightened companies, and mechanisms which support the concept of “collaborative individualism,” an essential survival technique in an open training market, which speaks of:

- Competitors in the morning;
- Partners in the afternoon;
- Customers in the night.

(Attributed to Jack Welch, CEO, General Electric Company.)

I can guarantee that successful partnerships breed further partnerships. Partnerships in training are what industry needs and what training providers need to be involved in. They are likely to be supported and encouraged by Government. In the United Kingdom and the United States, partnerships are already a strategic platform promoted by governments. Australian State and Federal Governments appear to be moving in the same direction.

A further point is that there is nothing to be scared of in establishing partnerships. For example, Colleges should not be overly concerned about losing control or risking people’s jobs through partnerships. Indeed, if you consider the following points concerning Karratha College’s performance between 1987 and 1991 after it became involved in partnerships:

- Program activity increased 43% since 1987.
- Staff workloads (academic) were, on average, 40% higher than TAPE lecturers anywhere in Australia.
- In 1991, 30% of the colleges recurrent income came from non-State Government sources. This means that the Cost-to-the-State of running Karratha College in 1991 was some 26% less (real terms) than what it was in 1987.
- Over the 4 year period, partnerships brought in around $2.5 million in non Government funding to pump prime new initiatives, provide staff and equipment, contribute to capital works, and so on.
This example suggests that there may be something very potent in this concoction we call "Partnerships in Training."

Establishing the Optimum Environment

Partnerships in Training are not single projects on the periphery of an organisation but are more a series of specific activities which form a natural part of everyday operations. Ensuring Partnerships in Training become a natural part of your business is an extremely important point.

According to Ricardo Semla of Semco, Brazil (1994), processes and procedures aimed at changing the organisation and making it more productive need to become a natural part of the business. One must also create a level of interest from people around the world, including management gurus, company executives, and so on. Semla believes in a new way—not socialist, nor purely capitalist, but a third way which is more humane, trusting, productive, exhilarating and rewarding.

Iain Vallance, the Chairman of British Telecom Incorporated, has said:

"It is crucial for industry and for BT that we approach the business of building quality partnerships with education as an integral part of our day-to-day activity. In other words, as part of business as usual."

BT Education Services acts as a national focal point for liaison with education at all levels.

If you accept the partnerships approach as a natural way of doing business, then it follows that creating the optimum environment for partnerships is as much to do with the culture and ethos of an organisation (private or public) as it is to do with the process of negotiating the terms of a commercial transaction. It is as much to do with people as it has to do with process and the way people perform is very much dependent on the organisation's culture and the way they are set up. In this sense, Partnerships in Training are a useful means of shaping an organisation in terms of strategy, structure and culture.

Examples in VET

A Skills Extension Program has been set up in conjunction with Woodside Offshore Petroleum which utilises Computer Managed Learning to deliver trade courses to workers on the North Rankin A Gas Platform, situated some 130km offshore in the Indian Ocean.

Additionally, the WA Retail Skills Centre adjacent to the Perth Campus of the Central Metropolitan College of TAFE (CMC) is now operating as a private provider of training (incorporated), but with a formal Partnership in Training agreement with CMC.

CMC is also involved in a collaborative effort with World Geoscience, the Australia Space Offices CSIRO and Curtin University. This is the "Leeuwin Centre" facility in Floreat Park which is involved in remote sensing research and development;

The design, development and delivery (in partnership) of the innovative Certificate in Supervision is also being carried out by CMC. This is the first course in Australia to receive State accreditation and National registration on the basis of joint ownership between academia (Karratha and Hedland Colleges) and Industry (Chamber of Mines and Energy, WA). The participating companies are:

- Argyle Diamonds
- Hamersley Iron
- Robe River Iron
- Telfer Gold Mine
- Woodside Offshore Petroleum

This initiative utilised the Integrated Training Model as the framework for development.

CMC has a very exciting delivery partnership with Deakin University in technology management, where the course is work based and can be accessed 24 hours a day, 365 days a year anywhere in Australia. ALCOA currently have 20 enrolled in the program and are planning to increase this to 50 in the near future. Other organisations interested in the program include Western Mining, the Water Authority, Worsley Alumina.

In the Pilbara, there exists a delivery partnership in which college lecturers and industry training personnel join forces in the presentation of modules from the National Metals curriculum for apprentices. This is carried out in a mixture of locations including company training centres and utilising company training facilities and resources, all of this occurring under the auspices of the College.

This arrangement applies to:

- Robe River Iron Associates
- Hamersley Iron
- Woodside Offshore Petroleum

Again, this is an initiative based on the concept of Integrated Training.

Another exciting development involves the Water Authority of Western Australia. CMC's Skills Development Centre has developed a range of fast track management and engineering
courses which are delivered in partnership involving Water Authority staff and lecturers from CMC. At the end of last year, the CEO's of the WA Department of Training and the Water Authority signed a Partnership in Training agreement which provides a strategic framework for the above plus a range of other activities, for example, joint venturing in the commercial provision of training.

Another CMC project involves the Southern Cross University. Under a franchising agreement with the University, CMC intends to deliver professional education courses in clinical nursing. Southern Cross University is a leading exponent of educational partnerships and has a range of activities with such organisations as Telecom, the Australian Army, the NSW Department of Corrective Services and the Department of Defence.

Other CMC activities include a joint venture with Qantas, where CMC has established a travel training facility, and the establishment of major campus facilities in partnership with two major mining companies—Hamersley Iron at Tom Price and Paraburdoo, and Robe River Iron at Wickham and Pannawonica.

An agreement has been made for ANTA to fund $280,000 towards an international partnership between CMC, Regency Institute of TAFE (SA) and Gwent Tertiary College (UK), for the purpose of adapting the software package “Capability” for use by RPL practitioners in Australia.

Yet another project is the Pilbara Videoconferencing Project (LIVENET). This involves a two-way-video/two-way-audio satellite communications system linking Karratha, Tom Price, Paraburdoo and Perth. It is on a 13 month trial utilising funds provided by Hamersley Iron, State Government, Telecom and DEET. The project is a major catalyst in focusing attention on the use of video conferencing for delivering education and training to remote locations in WA and we are now moving towards setting up a permanent statewide network.

A final example is the establishment of a “virtual campus” of CMC in conjunction with the Department of Land Administration (DOLA) involving flexible delivery of accredited courses on site and utilising local expertise and resources to supplement the training.

Potential For International Partnerships

Current Activities in Australia

The previous section of this paper has highlighted some of the contemporary practices in Australia. Training partnerships are currently involving universities such as Deakin, Southern Cross, Regency and AMTC, and such corporate organisations as Ford Australia, BP, Santos, Alcoa and WAWA. These companies are representative of the types of organisations using Partnerships in a strategic way to add value to their core business. BP is also a strong supporter of Partnerships in Training, asserting that "Community Partners add value," "Involvement opens doors" and "Partnership protects business."

The College of Customised Training (Int. Partnerships), soon to become the “Curriculum and Customised Training Network,” uses Partnerships as part of its marketing approach, although most activities are of a traditional kind involving commercial contracts. There are similar organisations in most States representing VET sector overseas.

Some examples of semi-commercial international partnerships are:

- Vietnam Land Management System Project; joint venture between Vietnamese Government, Department of Land Administration, Curtin University and CCT.
- Iranian Mining Fellowship Program; a partnership between Curtin and CCT.

The Polytechnic Linkages Program (Int. Partnerships) is managed by SAGRIC International (Adelaide) and is aimed at establishing long term strategic and operational relationships between TAFE colleges in Australia and Polytechnics in Indonesia.

The National Network of Partnerships in Training is an informal network of Partnership practitioners. The main activity conferences have been in Melbourne (1992) and Sydney (1993), and a conference is proposed for Brisbane in 1995.

Foundations such as the Victorian Education Foundation, the NSW Education and Training Foundation and the Queensland Tertiary Education Foundation have an important role within the National Network of Partnerships in Training.

The Dusseldorp Skills Forum is another organisation involved with the issues of Partnerships in Training. Part of its brief is to promote the principles of Partnerships and
highlight best practice. It was the co-sponsor of the 1993 Partnerships Conference in Sydney.

Similarly, the Industry/Education Forum in WA helps to develop practical partnerships between educators and industrialists. It is very broad in its approach, but in particular has found that lunch-time seminars are a useful networking mechanism.

Furthermore, this week's International Conference at Burswood Resort (20-23 September 1994), titled International Networking: Education, Training and Change, has its main focus on the Asia-Pacific region. This conference is likely to emphasise the importance of networking in gaining optimum benefit from the region's vast human, physical and intellectual resources.

Partnerships—A Global Phenomenon

The International Partnership Network (IPN), administered by University of Warwick, England, has several hundred members spanning some 24 countries. Its main objectives are:

- to establish a network of interested organisations and individuals, and to create a database of information and materials on education/business collaboration;
- to undertake research and case-study writing within the area of education-business collaboration;
- to organise a program of conferences and seminars.

The IPN publishes “Circuit,” an international journal. For anyone who is interested, membership forms are available!

In 1994 an International Conference was held in Paris, over the period 30 June-2 July. Attending were 450 delegates from 28 countries.

The title of the conference was Innovation through Partnership: the International Challenge, and the major themes involved were:

- Technological Change
- Innovation in Primary, Secondary and Higher Education
- Economic and Social Regeneration of Communities
- Return on Investment
- International Dimension

The proceedings of this conference are not yet available, but are currently being prepared. However, copies of the conference program are available on request.

Possible Areas of Collaboration

There are two distinct markets in training, these being Australasia and East Asia. In both cases, the intent is to form strategic alliances or partnerships between VET practitioners overseas (mainly the UK) and their counterparts in Australia. Here I am talking about high quality, innovative training which responds to new niche markets.

As partnerships develop, I dare say opportunities will arise to take Australian VET products back the other way, that is, to Europe (particularly former eastern block countries) and to the United States.

Specific VET products with partnership potential include the possibility of following an approach similar to the one followed with the Capability initiative. That is, outline the route taken—a visit to the United Kingdom, a return visit to Australia, seminars/conferences, linking up with other interested parties (Regency Institute)—and the eventual outcome—agreement from ANTA to fund an international partnership ($280,000) aimed at customising Capability for the Australian VET sector.

Another VET product is in place at the E & L Group in Wrexham, North Wales. The E & L Group works in the area of electronics and process engineering. They carry out joint product and curricula development, as well as trialling of technical training materials. The E & L Group acts as a shop window for technology training products.

A further example is the British Gas Distance Learning Unit in Altrincham, Cheshire. They follow a similar approach to the above, but are concentrating on products for the oil and gas industries in Australia and South East Asia. British Gas’s international arm, Global, is involved with offshore exploration and production. Discussions through the AMTC have already commenced with this organisation because of the AMTC’s intent to establish an Oil and Gas Training Centre in WA.

A successful collaboration in Europe is FORCE (Formation Continue En Europe)—many of the products we could access have been developed through this EEC program.

Training for Quality is a multimedia CBT package supporting the introduction and implementation of TQM. The package has been funded by FORCE and involves industry and colleges in the United Kingdom, France, Ireland, Italy and Netherlands. The selling price for the package in Europe is £99 plus packaging and postage for colleges, and £250 plus packaging for industry.
Another FORCE initiative consists of the Implementing Quality Systems through Open Learning program. This has been established jointly by the Plassey Management & Technology Centre (University of Limrick, Ireland), Digital and the United Kingdom's National Centre for Quality Management. Those involved are also interested in franchising the program to other countries.

Another VET Partnership potential is with the Cleveland Open Learning Unit (COLU). The COLU is keen to establish a "front window" for their products in Australia and SE Asia. They are well established in the United Kingdom and quite successful overseas.

Similarly, Swindon College is interested in establishing training partnerships in South East Asia, particularly in engineering, and it also has an open learning capability.

Llandrillo College in North Wales is one of Wales' largest FE colleges with a national reputation for curriculum innovation and development. It is interested in some form of collaboration, including staff exchanges—particularly the Assistant Principal.

These examples are just a small sample of the "best buy" opportunities in Partnerships in Training, but there is a lot more on offer!

Conclusion

Partnerships in Training have a great deal to offer academia and industry. It is certainly not easy to establish partnerships and it does require a great deal of effort from all parties. It does take time and there is nothing to be gained from fast tracking or quick-fix solutions.

Importantly, all parties need to see themselves as truly participative partners. You will need to establish a high degree of trust between potential partners and you will need to surround yourself with people with the same values and corporate goals. Most of all, however, it is mutual respect and understanding which will ensure an ongoing and successful Partnership in Training. For those interested in establishing such partnerships I would be more than willing to assist you and act as your "marriage broker" at no cost whatsoever! Anyone interested in becoming involved in some form of partnership, please let me know.

References


• • •
The number of students attending universities throughout the world is projected to rise from 47 million in 1990 to 59 million in 2000, 85 million in 2010 and 121 million in 2025. The increase is expected to be modest in the countries that are members of the Organisation for Economic Cooperation and Development (OECD), reflecting low growth or declines in the population in the prime university age groups and already high participation rates in most countries. However, it is projected to be large in the developing countries, particularly in Asia, due mainly to the effects of rising incomes on their participation rates.

In 1989, a little more than one million university students, or two per cent of all students, were international students—that is, they were studying in countries other than those in which they held resident. Most came from Developing Asia, Western Europe and Africa. Australia provided education for about 19,000 international university students. These students represented 1.8 per cent of all international students. More than 80 per cent were from Developing Asia. Australia was the chosen destination for six per cent of international students from Developing Asia and 14 per cent of international students from South East Asia. Only 0.5 per cent of international students from the OECD region came to Australia. The share was even lower for international students from Africa, Eastern Europe, Latin America and the Middle East.

Over the last few decades, international trade in all services has grown at about twice the pace of domestic trade in services. The scenario below assumes that, for the world as a whole, this relationship will hold for tertiary education during 1991-2025. For some countries, particularly high income countries in Western Europe where total domestic enrolments are projected to increase slowly, the elasticity is assumed to be above the average. In countries where a large proportion of students are funded by international and national organisations, including many countries in Africa, the elasticity is assumed to be less than the average.

Under this scenario, the total number of international students would increase to 1.6 million in 2000, 3.0 million in 2010 and 6.0 million in 2025. In the OECD region, internationalisation would be an important stimulus to growth. Because of its rapid increase in total enrolments, Developing Asia would become the largest source region, with international students of 560,000 in 2000, 1.6 million in 2010 and 3.5 million in 2025.

Australia has several important advantages in exporting tertiary education, especially to the large and rapidly growing Asian market. It has the capacity to deliver a quality educational product, it has English as it official language, it is close to Asia, it is in the same general time zone as Asia, and it is regarded by both students and staff as an attractive place in which to live for several or more years.

From a base of virtually zero in the middle 1980s, Australia has become an important exporter of tertiary education. Its share of the world market is already more than twice its share of all markets. It has achieved this while supplying a product that, historically, has been neither commercially nor externally orientated.

With the establishment of institutions that can focus on delivering the most suitable product
### Table 1

**Student Population 1990 - 2025 (millions)**

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OECD</strong></td>
<td>20</td>
<td>20</td>
<td>23</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>North America</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Western Europe</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Developing Asia</strong></td>
<td>16</td>
<td>23</td>
<td>37</td>
<td>52</td>
<td>56</td>
</tr>
<tr>
<td>North East</td>
<td>6</td>
<td>7</td>
<td>13</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>South East</td>
<td>6</td>
<td>7</td>
<td>10</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>South</td>
<td>5</td>
<td>8</td>
<td>14</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td><strong>Africa</strong></td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Latin America</td>
<td>7</td>
<td>9</td>
<td>12</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Middle East</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>World</strong></td>
<td>47</td>
<td>59</td>
<td>85</td>
<td>110</td>
<td>121</td>
</tr>
</tbody>
</table>

Source: UNESCO data and Global Development Perspectives

### Table 2

**Origins and Destinations of International Students, 1989**

<table>
<thead>
<tr>
<th>Destination</th>
<th>Australia</th>
<th>United States</th>
<th>United Kingdom</th>
<th>France</th>
<th>Germany</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD</td>
<td>1 479</td>
<td>86 426</td>
<td>23 370</td>
<td>28 870</td>
<td>48 712</td>
<td>102 677</td>
<td>291 534</td>
</tr>
<tr>
<td>North America</td>
<td>463</td>
<td>16 113</td>
<td>6 084</td>
<td>4 668</td>
<td>4 639</td>
<td>10 123</td>
<td>42 090</td>
</tr>
<tr>
<td>Western Europe</td>
<td>457</td>
<td>41 295</td>
<td>15 870</td>
<td>23 166</td>
<td>42 716</td>
<td>89 025</td>
<td>212 529</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>559</td>
<td>29 018</td>
<td>1 416</td>
<td>1 036</td>
<td>1 357</td>
<td>3 529</td>
<td>36 915</td>
</tr>
<tr>
<td>Developing Asia</td>
<td>16 681</td>
<td>160 308</td>
<td>20 874</td>
<td>6 156</td>
<td>11 475</td>
<td>66 011</td>
<td>281 505</td>
</tr>
<tr>
<td>North East</td>
<td>3 748</td>
<td>87 742</td>
<td>8 033</td>
<td>3 616</td>
<td>5 985</td>
<td>29 687</td>
<td>138 811</td>
</tr>
<tr>
<td>South East</td>
<td>12 418</td>
<td>37 556</td>
<td>9 769</td>
<td>2 052</td>
<td>3 703</td>
<td>20 541</td>
<td>86 039</td>
</tr>
<tr>
<td>South</td>
<td>515</td>
<td>35 010</td>
<td>3 072</td>
<td>488</td>
<td>1 787</td>
<td>15 783</td>
<td>56 655</td>
</tr>
<tr>
<td>Africa</td>
<td>367</td>
<td>22 114</td>
<td>9 117</td>
<td>7 835</td>
<td>8 107</td>
<td>77 892</td>
<td>196 432</td>
</tr>
<tr>
<td>Latin America</td>
<td>51</td>
<td>41 576</td>
<td>2 052</td>
<td>5 433</td>
<td>2 824</td>
<td>28 213</td>
<td>80 149</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>46</td>
<td>3 005</td>
<td>200</td>
<td>1 996</td>
<td>7 134</td>
<td>17 391</td>
<td>29 772</td>
</tr>
<tr>
<td>Middle East</td>
<td>334</td>
<td>31 149</td>
<td>6 731</td>
<td>15 154</td>
<td>19 091</td>
<td>92 881</td>
<td>165 340</td>
</tr>
<tr>
<td><strong>World</strong></td>
<td>18 958</td>
<td>244 578</td>
<td>62 344</td>
<td>156 444</td>
<td>97 343</td>
<td>385 065</td>
<td>1 044 732</td>
</tr>
</tbody>
</table>

Source: UNESCO data
Table 3
Scenario of International Students by Origin,
1990-2025 (Thousands)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD</td>
<td>292</td>
<td>340</td>
<td>530</td>
<td>730</td>
<td>860</td>
</tr>
<tr>
<td>North America</td>
<td>42</td>
<td>70</td>
<td>120</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>Western Europe</td>
<td>213</td>
<td>220</td>
<td>330</td>
<td>410</td>
<td>460</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>37</td>
<td>50</td>
<td>80</td>
<td>120</td>
<td>150</td>
</tr>
<tr>
<td>Developing Asia</td>
<td>282</td>
<td>560</td>
<td>1590</td>
<td>3070</td>
<td>3530</td>
</tr>
<tr>
<td>North East</td>
<td>139</td>
<td>240</td>
<td>650</td>
<td>1330</td>
<td>1480</td>
</tr>
<tr>
<td>South East</td>
<td>86</td>
<td>150</td>
<td>430</td>
<td>690</td>
<td>850</td>
</tr>
<tr>
<td>South</td>
<td>57</td>
<td>170</td>
<td>510</td>
<td>1050</td>
<td>1200</td>
</tr>
<tr>
<td>Africa</td>
<td>196</td>
<td>280</td>
<td>330</td>
<td>680</td>
<td>720</td>
</tr>
<tr>
<td>Latin America</td>
<td>80</td>
<td>110</td>
<td>150</td>
<td>210</td>
<td>240</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>30</td>
<td>80</td>
<td>120</td>
<td>200</td>
<td>260</td>
</tr>
<tr>
<td>Middle East</td>
<td>165</td>
<td>220</td>
<td>290</td>
<td>320</td>
<td>350</td>
</tr>
<tr>
<td>World</td>
<td>1 045</td>
<td>1 590</td>
<td>3 010</td>
<td>5 210</td>
<td>5 960</td>
</tr>
</tbody>
</table>

Source: UNESCO data and Global Development Perspectives

for discerning and changing international markets, Australia could probably capture five per cent of those markets by 2000 and 7.5 per cent by 2010. If the projections above are correct, this would imply about 80,000 international students in 2000 and 225,000 by 2010. With each student spending about AUD 25,000 a year on fees and living expenses, the industry would generate AUD 2 billion of export revenue in 2000 and more than AUD 5 billion in 2010.

Australian universities have been funded largely by Australian taxpayers to educate Australian students. Their products have been delivered through a basically centralised system in a non-competitive environment. It is not surprising that considerable scope exists to modify the products in order to improve their acceptability on the international market. These modifications include the introduction or strengthening of a market-oriented approach, an international focus for many of the courses, acceleration of degrees, the offer of lifetime education and training, and the customisation of courses and degrees.

While many overseas students will continue to fund their studies from scholarships, the growth of the international market will be mainly in full fee paying students. Export-oriented universities will succeed only by supplying products that meet the continuing needs of students and of present and prospective employers of their graduates.

International students are attracted by courses that focus on the world as a whole and its present and prospective major regions and countries. According to forecasts by Global Development Perspectives the largest economies in 2010 will be China (17 per cent of gross world product), the United States (14 per cent), Japan (six per cent) and India (six per cent). Universities that pay special attention to Australia plus these four countries would have appeal to students from virtually all countries. They would be attractive to students from Western Europe and North America who would like to learn about several Asian countries, while living in a reasonably familiar and very secure environment. They would also appeal to students from the developing countries whose futures are closely tied to performance in the major economies.

Most public universities in Australia, and also in our major competitor countries, follow the semester system. Courses are provided for about 26 weeks, requiring students to take three years to complete a standard business or arts degree. Successful export-oriented universities would adopt the trimester system, with perhaps
three teaching periods of 14 weeks each per year. This would enable students to complete most undergraduate degrees in two years, without any reduction in classroom or study time. It would enhance the quality of learning by reducing the downtime between teaching periods (a frequent criticism of the present Australian system is that students are always in “vacation mode”). By allowing graduates to join the workforce a year earlier, it would also eliminate the financial cost to Australian students of studying in an independent rather than a public university.

Research by Global Development Perspectives indicates that people entering the workforce in 1994 will, on average, have to cope with approximately 20 times the amount of technical change that those retiring from the workforce in 1994 generally failed to cope with during their working lives. Successful universities in the future can be expected to help their graduates remain up-to-date in their speciality areas by offering short and interesting refresher courses, many of which will be delivered into the workplace using inter-active video transmission supported by on-site tutors. Every decade or so, graduates will be invited to return to campus for a trimester to receive a thorough upgrading of their degree or perhaps to complete a degree in a new area. Because graduates would already have at least one degree and would have completed a number of relevant short courses, the second degree might often require only one trimester on campus.

Traditionally, universities have provided a set of standard courses and invited students to come to the sites on which the universities are located to study these courses. The successful universities of the future will increasingly supplement these with courses designed specifically for particular groups of students and will deliver them at sites that are convenient for the students, rather than for the staff of the universities. For example, a tourism department in an export-oriented university might work with departments of tourism in Asian countries to prepare certificate, diploma or degree courses that meet precisely the immediate needs of these departments. And, rather than the students coming to the university, the university would increasingly deliver the courses into the workplaces of those students.

◆ ◆ ◆
Education, Training and Change

Simanhadi Widyaprakosa
Universitas Jember
Indonesia

Education is the process of the growth and development of the personality. It implies that the processes of changes and training have taken place through education.

Basically, education is a conscious attempt at creating the personality and in developing the human potentiality to face several challenges of life, such as failure, problems, handicap or the absence of the instruments to fulfil the life needs independently.

We are aware of the fact that, recently, a great change of the process has taken place to disturb the settled, peaceful and harmonious human life sudden changes might happen and shake the stable system beside the unawareness of the human beings on the evolution taken place in their life as the changes are not programmed.

Education is expected to prepare people to face challenges in their lives and, at the same time, enable them to solve individual and social problems. The main problems in recent education are those of the developing countries, as their population growth is relatively higher than that of developed countries. Problems become more acute in those whose economic development is slow. It is expected that the process of education should help develop the value of human life in those countries and enable the people to fulfil their needs, self-sufficiently, to match those of developed countries.

Theoretically, many relevant and quality educational systems have been established but many constraints are apparent in their operation.

Many related factors influence whether education will succeed, and these are both internal and external factors.

Theoretically the educational attempt seems to have succeeded but practically it is unable to help people solve their problems of self sufficiency. This might be caused by the social structure of the community which does not give adequate opportunity for the educational outputs to play a real role.

Challenges in the Educational World

The problems of education, especially those in developing countries, are caused by the explosion of the population growth of the community, making the educational software and hardware insufficient for educational needs. Science and technological developments require human resources of high quality. The need for education becomes greater and greater, requiring more educational software and hardware.

The development of science and technology encourages the economy, transportation and communication to develop very quickly. These industrial devices have developed very rapidly and have produced the economic products without depending on human resources. Consequently, developing countries are invaded by the developed countries’ technological products of economy, preventing the people of the developing countries from having the opportunity to work to fulfil their needs of life. Concurrently they get into trouble in developing their economy to support the process of education.
The economic gap occurs in one's own country, resulting from the unequal opportunity to get the proper education and to obtain the chance of having a role in the economic life. An economic dilemma faced by developing countries is the difficulty for them to compete in marketing their domestic products, because those of the developed countries have had an earlier opportunity to grab a better market. Therefore, developing countries become consumers, rather than producers.

Such a condition is the challenge of the educational system. As the field of communication becomes more and more developed, the influence of culture of developed countries on the developing ones penetrates more rapidly. If a national of a developing country has no strong value of culture as its national personality builder, it will experience the changes of the instrumental value system as the nation will consider the value coming from the developed country is the best. Such a condition can spur an erosion of values and the loss of national identity.

It is not impossible for a developed country that has obtained anything from developing countries to govern the latter in all aspects. To maintain its existing domination, it is possible for a developed country to engineer the economic structure of developing countries to its advantage, by ignoring the developing countries' economic development.

It is obvious that developing countries face several challenges in education in creating a nation of citizens with personality, professionalism and a mastery of science and technology. On the other hand, developed countries will, in reality, face difficulties if the developing countries are unable to equate technology. On the other hand, developed countries might have been suppressed by its colonial government, while the other was given economic advantage, by ignoring the developing countries' economic development.

The social gaps between one country and another may be caused by the different colonial systems each experienced. For example, one country might have been suppressed by its colonial government, while the other was given the opportunity to develop. The social gap within a country may be caused by the fact that an individual or a group is more capable of obtaining economic advantage or prestige than other individuals or groups. Such gaps may become instruments for social uprising of disadvantaged people, which may disturb national stability, thus preventing the development process from proceeding.

Advantage of such situations is often taken by particular parties to achieve their political or economical goals, bringing about a negative impact upon education development. The situation prevents students from studying properly, making them unable to master the science and technology needed to develop their

Some Constraints in Developing Countries' Education Progress

Some developing countries which are former colonised countries experience some constraints in their education development. Constraints are of different kinds and values; the most striking constraints are those in the economic area.

The development of education is very costly and funding is difficult to obtain. Developing countries with a high rate of population growth need a concentration of economic growth sufficient to meet the consumer's needs. The constraints are very difficult to overcome if the population increases too rapidly as this growth challenges the country to develop qualified human resources which, at the same time, require the living cost to increase greatly.

The second problem is caused by the penetration of technological products used for entertainment. This can entice individuals to satisfy themselves by acquiring such products.

A developing country which is unable to master technology will become the prey of the technological products its people enjoy. If a country is incapable of investing the capital and is unable to make use of the high technology available, it will have problems. Even if the country can invest the capital to develop its industry, it may still encounter difficulty in marketing the products of this industry, as the global market is not easy for developing countries to penetrate.

The third problem arises from social gaps existing between one developing country and another, or from social gaps within a country.

The social gaps between one country and another may be caused by the different colonial systems each experienced. For example, one country might have been suppressed by its colonial government, while the other was given the opportunity to develop.

The social gap within a country may be caused by the fact that an individual or a group is more capable of obtaining economic advantage or prestige than other individuals or groups. Such gaps may become instruments for social uprising of disadvantaged people, which may disturb national stability, thus preventing the development process from proceeding.

Advantage of such situations is often taken by particular parties to achieve their political or economical goals, bringing about a negative impact upon education development. The situation prevents students from studying properly, making them unable to master the science and technology needed to develop their
own lives as well as their country.

The fourth problem is related to the value system in the framework of self developing individual. It is necessary for an individual to identify his personality, in order to match it to a field of development in science and technology, especially in the communication area.

Basically, an individual directly contributes to his nation’s survival, stored in the nation’s culture and the foreign values spread out by the mass media.

A nation may develop its own national identity if it can absorb its own cultural values enriched with the foreign values it has adopted. Apparently the opposite phenomenon is now often taking place, namely, a nation ignores its own cultural values and adopts the foreign values instead. In such a situation, the people are not themselves any more and they are easily influenced by the cultural values of others. This contradiction can give rise to internal conflict in the life of the individual or the nation, with potentially damaging risks. Besides, education does not create a person with his own personality and identity. On the contrary, education creates an individual with the personality and identity of others.

The fifth problem is in the framework of education and its relation to the mastery of science and technology. Theoretically, there are no problems in mastering technology, as the essential aspects—training and experience—bring no problem but the choice of technology related to the social need to develop is questionable. Not all existing technology is suitable for students in particular communities to absorb.

More research is needed to answer the questions concerning whether or not the technology is needed and whether or not it is suitable for certain communities.

Alternatives of Problem Solving

Basically, the educational process is an attempt to increase the overall quality of mankind, namely the personal, social and spiritual qualities.

Personal quality relates to the acceleration of physical and spiritual ability, and social quality involves ethical and social ability. “Spiritual” refers to the conscience and essence of mankind as God’s creation.

Personal quality may be developed through healthy physical and psychic development.

Spiritual ability relates to the development of intelligence, emotional control and a positive attitude towards a healthy life. Technological skills and professional working ability also need developing to enable all individuals to fulfil the needs of life.

An educational process will not work well without the supporting environmental conditions. The supporting social conditions for an educational process are economic development, a democratic political atmosphere, and a secure environment, which guarantees the freedom for individuals to engage in education, and in developing the moralistic structure of life.

The educational process of one nation can exert a powerful influence on another country’s educational processes. Therefore the notion of establishing international relations for mutual profit needs creating in the implementation of any educational enterprise. In this case the atmosphere of respecting and appreciating the educational system of each country is extremely important and can be profoundly meaningful.

Every nation has its own sociocultural condition inspiring the nation’s life in building up its personality. By establishing an international harmonious relation in the educational area a good and mutually profitable international brotherhood will be established.

Cooperation in the educational arena can result in a positive outcome for developed and developing countries alike. Thus developing countries, willing to learn from developed countries, can do so, but it is not impossible for developed countries to learn something from the developing ones, or, at least, be inspired by implementing part of the educational process.

In the framework of international cooperation, in nurturing future generations and encouraging them to collaborate harmoniously, human rights oriented education is very helpful. Important aspects are that single interpretation and true understanding of human rights is a necessity; and that the implementation of these rights needs to be flexible and must be governed by the conditions in each country/state.

The Educational Materials

An educational “doer” is closely related to the objectives of education in spite of the differences of one country/state from another. Truly, however, the main materials to present in the educational world need inventing. Considering the essence and characteristic of mankind (individual, social and spiritual) the essential material to assess the humane educational objectives are yet to be found. Figure 1 indicates these educational materials.
**The Concept of Human Rights Oriented Humanity Consists of:**
- the right for life;
- the right for freedom; and
- the right for justice.

**Science and Technology:**
Basically, to answer the challenges of the era and to fulfil the needs of their life, human beings need to master science and technology.

**Social Conscience:**
Naturally, human beings are moulded by the social character in the sense that they have lived in the social world since they were born and nurtured. At the first stage of existence one was greatly dependent on the generosity of the social world, at least of one’s parents or nurse. Therefore, the social conscience of individuals needs developing through education.

**Environmental Awareness:**
Mankind lives in the universe and is able to remain alive due to the generosity of nature. Natural equity has benefited human beings, serving them their needs.

**Professional Skills:**
Skills are obtained from training and helped by the mastery of science and technology. Skills enable people to make and use technological instruments to maintain the natural environment, and change it into something useful for their lives.

Specialised skills will create expertise producing professionalism in particular fields of endeavour. This is important if the nations of the world are to develop jobs which cater for mutual needs.

**Conclusion**
Nowadays, human beings have experienced several explosions of social events which are seemingly dangerous to the continuance of human life, because of the war resulting from conflicts and different attitudes. To save humankind from such dangers, education must create communicative new generations among nations, respecting one another. These new generations need to have the ability to create environments which meet mutual needs.

Education will enable us to nurture generations whose complete, integral personality is animated by the philosophy of life, with the stress on the spirit of giving higher esteem to others for worldwide peaceful mutual life.

The curriculum of education will contain, most essentially, true equality of humankind both physically and spiritually. The new curriculum will operate with new generations who are ready to guarantee better world security and peace for the sake of the welfare of all.

[Figure 1. Education materials]
The need for comparing notes, ideas, views and problems is, possibly, nowhere greater than in the academic and research world. Proof of this assertion is the existence of innumerable journals, publications, research bodies and academic conferences. In earlier days there was no need for immediate exchange of views between people located in distant places. Perhaps the need was there but was never realised. As pointed out by some researchers (Greenberger et al, 1974) a couple of decades ago, given the commonality in work performed by computer centres in the USA, one might have expected them to have engaged in a great deal of sharing of data and other computing resources. However, this did not happen then. With the advent of telephone, telex and facsimile transmissions, researchers realised the importance and effectiveness of a speedy exchange of information among persons located in any comer of the world. However, there are several limitations in these media. For example, how does one compare notes with many people without spending an enormous amount of time, first in finding out who they are and then sending messages to all of them. This could cost one a lot of time and stationery. The scenario is worse if one is in a developing country, where these media are relatively costly and academics may have limited access to appropriate facilities.

The development of electronic computers and advancements in telecommunications have given us such an excellent facility for computer networking that the 1990s has been dubbed "the global internetworking decade" (Lai, 1994). This new medium of information accumulation and dissemination has further given rise to various services like electronic mail, electronic file transfer, voice/video/image transmission, distributed database processing and remote login. As research (Turoff and Hiltz, 1988) points out computer mediated communication represents a unique form of communication where one can be very selective. Structuring of information is one characteristic that makes this medium unique. Of course, the immediacy of information goes without stating. It is, therefore, no surprise a number of countries in the world have embarked upon the path to academic and research networking (A directory of electronic mail, 1989).

However, the economic, social and other conditions of these countries could be quite diverse. Their relative importance from Australia's point of view could be a factor in determining close economic, cultural and research co-operation between them and Australia. Judging from recent mutual visits and exchanges between Australian and southeast Asian countries' governmental and ministerial delegations, it is evident that Australia is keen in striking good relationships with most of the countries in this region. The fact that some of the countries in this region, nicknamed the five tigers of Asia, viz. Japan, Singapore, Taiwan, South Korea and Hong Kong have recently developed a booming economy (The Economist 1994) is reason good enough for such moves for Australia. Nevertheless, looking around we find another emerging tiger in the south Asian region is India, whose recent market liberalisation has vastly improved its economy (The Economist 1994). The importance and emergence of India...
from its sleeping tiger role has prompted Australia to look into further possible economic and business co-operation between the two countries. An indication of this is the organisation of a month long cultural festival called India Today, held recently in major cities of Australia (India Today 1994). The festival was inaugurated by the Vice-president of India who was accompanied by a delegation consisting of members of the Indian parliament. However, the main focus of the festival was to boost co-operation on the business and economic front. There was not much effort made to look into the possible co-operation in the academic and research arena between the two countries. It is therefore the aim of this paper to explore some of the potential academic and research co-operation avenues between the two countries. The author believes that an excellent way of exchanging research data and other information is by using the existing academic and research computer networks in the two countries viz. the AARNet (Australian Academic and Research Network) and the ERNET (Education and Research Network) of India.

Objectives of AARNet and ERNET

The primary objectives both of AARNet and ERNET seem to be more or less the same, that is, provision of a high performance communications network to members of the academic and research community of their respective countries (AARNet Publicity Brochure, September 1989; Mathur & Ramakrishnan, 1988).

The activities that are supported on the two networks include:

- Fostering collaborative activity through a common and effective communications medium. This encompasses the ability to exchange information, software and computer data between users of the network, enabling the support of geographically dispersed research groups with a common focus of activity.
- Support for fast, reliable electronic mail delivery system for effective peer communication.
- Ability to access information sources through either direct remote interactive access or through distributed database applications.
- Ability to use local workstations to access remote high performance computing facilities in a productive manner across the network.
- Support of international collaboration, enabling access to overseas networks. It is interesting to note the importance placed on international collaboration.

Services Supported

To facilitate the objectives mentioned the education and research networks of Australia and India have to provide various services to their users. Some of the services available over AARNet and ERNET are (AARNet Resource Guide 1992; Project ERNET 1994):

- Electronic mail—for contacting people world-wide on the Internet and other networks.
- Remote login—connecting to a distant computer to use resources like super-computers, searching on-line databases ...
- File transfer—for transferring special files (binary e.g. images, spreadsheet files).
- Directory services—for enquiring about phone numbers and other details of academics.
- Conferencing—for participating in discussions and exchange of ideas on a variety of topics.
- Database access—for finding some specific information e.g. library information.
- News services—for news and discussion groups.
- Archie, Gopher, WAIS services—software for finding information on the Internet.

The list above is by no means exhaustive in the sense of what can be accomplished by a particular group (or an individual) using any of these facilities could be quite different than the same facility used or accessed by another group. For example, a particular group may use electronic mail very effectively to distribute news of interest to its members, while another group may use it for exchanging notes or comments pertaining to a conference. A third group may use both electronic mail as well as news services to achieve the same object as the second group. Thus, not only can each service be used to accomplish a variety of tasks but it can also complement others.

Network architecture

As the terrestrial links in Australia, unlike those in most of the developing countries, are more reliable and may use either microwave links or fibre optics cables as the medium, AARNet has adopted Australian Telecom
Each regional state network consists of a single hub router with 48K or microwave links to each AARNet member. These star networks are interconnected by a national backbone, also configured as a star, centred on Melbourne. A satellite link from Melbourne to the USA connects AARNet to the Internet.

Figure 1. The AARNet backbone WAN (ASTEC report on AARNet, 1994)

A Brief Comparison

Before looking at the higher education sector, a brief look at the demographics of Australia and India is necessary to compare and contrast the two nations (Table 1).

Table 1 is possibly a comparison of contrasts which tilts more in Australia's favour. However, per capita income could be a misleading factor in such a comparison, as a dollar in India can buy much more than it can in Australia. One factor which is of importance is the literacy rate.

Further, a close look at the higher education sector reveals a much better profile of the two countries (Table 2).

It is interesting to note that while the student/teacher ratio in the two countries is more or less same, the number of higher education institutions in India is significantly higher than in Australia. However, the number of institutions in India linked to ERNET is only 237 (Table 3), while this figure for Australia is 260.

It should be mentioned here that most of the AARNet and ERNET sites are research and other governmental organisations. Therefore, Table 3, while giving us some idea about the extent of networking in higher education and other institutions in the two countries, does not provide us the exact comparison. However, the point is clear that there is sufficient scope for collaborative work between the two countries.
Table 1
Demographic comparison between Australia and India (Source: Britannica World Data 1993)

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>US $290.5 billion</td>
<td>US $294.8 billion</td>
</tr>
<tr>
<td>Per capita income</td>
<td>US $17,000</td>
<td>US $350</td>
</tr>
<tr>
<td>Literary</td>
<td>99.5%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Table 2
Higher/Tertiary education in Australia and India (Source: Britannica World Data 1993)

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of institutions</td>
<td>329</td>
<td>6,600</td>
</tr>
<tr>
<td>Number of students</td>
<td>420,640</td>
<td>3,820,000</td>
</tr>
<tr>
<td>Number of teachers</td>
<td>25,916</td>
<td>242,000</td>
</tr>
<tr>
<td>Student teacher ratio</td>
<td>16.2</td>
<td>15.8</td>
</tr>
</tbody>
</table>

Table 3
Institutions connected to AARNet or ERNET (AARNet members list, 1992; ERNET site list, 1994)

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of institutions</td>
<td>329</td>
<td>6,600</td>
</tr>
<tr>
<td>Number of institutions connected to national WAN</td>
<td>260</td>
<td>237</td>
</tr>
<tr>
<td>Percentage of institutions connected to national WAN</td>
<td>79%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Research Collaborations
From the above discussions it is clear that there could be many reasons for Australia to forge and foster research collaborations with an economically booming country like India; especially as compatible collaborative and research infrastructure exist in these two countries. Both countries use English as the main media of instruction. Both follow a structure of education which is quite similar. From the list of sites connected to the respective countries’ research data networks (RDNs) one can observe that some of the research bodies in the two nations have almost same name, viz. CSIRO (Australia) and CSIR (India). It is therefore important to look at some possible collaborations between the two countries involving the academic and research communities. This can benefit not only Australia but also India, which can gain much from Australian expertise on the technical aspects of research networks, such as in the field of distance education. The following sections discuss some of the possible areas of collaboration. By no means are these exhaustive. In fact, some of the suggestions made can be applied to other disciplines as well.

Social Sciences
The importance of data sharing in social sciences needs no emphasis. Sieber (1991) notes that electronic methods, our understanding of the development and the transformation of cultures and societies is becoming far more complete than ever before. These methods make new knowledge available not only to scientists and policy makers but also to students via classroom use of computerised data. So here we have a very strong case for setting up a collaborative research forum between Australia and India as both the countries have pockets of aboriginal people. While Australian aboriginal have a unique culture preserved and untouched by centuries of isolation, India, on the other hand, presents a number of tribal groups. It will therefore be useful to set up a collaborative newsgroup in such a discipline. This newsgroup could include all researchers and experts in the two countries interested in collaborating their research and findings on the unique cultures of native people of the two countries. Later on this newsgroup could be extended to use computer supported collaborative work (CSCW) and...
group conferencing for more effective discussions. It may be noted that while group conferencing is supported on the AARNet (ASTEC report on AARNet, 1994), it is still to be provided on the ERNET (Project ERNET, 1994). Further possibilities in the distant future could be interactive tutorials, video conferencing and so on, when such facilities are available and the network supports them comfortably (ASTEC report on AARNet, 1994).

Distance Education

The growth of computer telecommunication is making on-line collaboration and networking an important part of education. The key factor to their effective use lies in the design of the on-line educational environment (Harasim, 1992). Australia figures very prominently amongst the select few nations in the world which use computer-mediated communications in delivering distance education (Paulsen, 1992). So far there has been limited use of the academic and research networks to do this, as most of these countries use public telecommunication services like the AUSTPAC in Australia (Paulsen, 1992). However, in future one could see the use of the AARNet, for example, in such a venture (ASTEC report on AARNet, 1994). Since India has a geographically dispersed population comparable to that of Australia, it will pay to investigate into such a venture. Critics may argue whether there will be any takers of such a service as it is likely to be very expensive (telecommunication services in India are relatively very costly as compared to those of Australia). Nevertheless, recent figures released by the Indian government indicate there are over 150 million middle class which is growing by 20 million annually (A New India, 1994). If one could tap even 1% of this huge middle class it will mean more than a million people. However, the Indian government and the education sector there need to set up the infrastructure for such a project. Again the method suggested for the social sciences, namely setting up newsgroups on the Internet and then using group conferencing, could be employed here as well. Initially, this group could look into the possibilities of how Australian experiences could effectively be applied to the Indian scene.

Agricultural Sciences

Both Australia and India have a growing agriculture and food production system (Britannica World Data, 1993). There are several agricultural research institutes in both countries which are on their respective national research networks. This discipline in both countries could certainly gain a lot by exchanging data and doing collaborative research projects.

Other Areas

Some of the other disciplines where collaborative work could be done are mining and metallurgy, medical sciences, biomedical sciences and geophysics. Of course, some of these disciplines will need the provision of substantial bandwidth on the computer networks in the future for such collaborations to succeed.

Conclusion

Academic and research networks hold tremendous potential for co-operative research. This paper highlights some of the similarities in the higher education and research sector in Australia and India as both the countries have moved towards computer networking in the academic and research arena. It points out that some of the possible research collaborations using these research networks viz. the AARNet and ERNET could be to join researchers of Australia and India in such areas as social sciences, distance education, agricultural studies and mining to name a few.

References

ERNET Members List (1994). (Gopher Information on the Internet).
Project ERNET April (1994). (Gopher Information on the Internet).
Since August 1993, there have been five major industrial accidents in the Delta Area, especially in or near Shenzhen, and the latest one in Zhuhai. Although factory disasters renewed concern about safety rules, and anger was expressed at the lack of industrial safety, investments pouring into the Delta did not stop during last year though there is a noticeable reduction recently due to the deflating measures ordered by Vice Premier Zhu Rongi. Industrial disasters are the price of rapid economic growth when infrastructures and regulating procedures cannot catch up.

The concept of special economic zones was developed by Deng Xiaoping who, after rising to power in 1977/78, considered that economic growth must have priority over class struggle politics. Clear-cut instructions were given to "map out a special zone in Guangzhou, and make it special." "Central government may not have the resources, you go ahead to do it, cutting out a lifeline with blood" (Xiaoping, 1979). Deng Xiaoping also pointed out after the June 1986 incident that the top priority in reforming China was education.

Profile Of The Delta Area

The Delta area, being just north of Hong Kong, consists of 44,300 square kilometres of land, (relatively flat in the region and mostly fertile amid a network of rivers and waterways), contains 26% of Guangdong Province's population and accounts for 43% of its industrial output (Duckworth, 1992). The area exports 20% of China's manufactures (Lingle, 1994). A major part of Hong Kong's industrial sector is dependent on this area, according to a survey by the Federation of Hong Kong Industries in 1991. It has been the most favourable base for Hong Kong manufacturers, who have relied on its cheap land and labour. The survey covered companies in Hong Kong accounting for about 60% of the total production by Hong Kong's 50,000 manufacturing enterprises. Of the 1256 companies that responded to the survey, 41% have made direct investments in the Delta area, totalling HK $4.7 billion (US $602.6 million). Hong Kong's electronics and toy industries had the highest degree of commitment. Factory management in the electronic and toy industries should be emphasised in the Delta MBA program—especially on the subjects of patentability of these industrial products, the law of infringement of patent rights, method of innovation management and tooling technique management. These will be designed to be part of the subjects taught.

The Delta area is enriched by two Special Economic Zones devised by China to assist its opening up to the world. The first one, nearest to Hong Kong, is Shenzhen, and the other is Zhuhai. The proximity to Hong Kong is the main factor for the area's prosperity and for its future potential. There is a natural cultural mix, with most people speaking the same language and having similar social and cultural traditions.

The Shenzhen Special Economic Zone, which is the most important zone in the


2. The zone has an area of 327.5 square kilometres, in the south part of Shenzhen Municipality.
emerging market of China, was founded in 1980. Within 6 years, an urban area of 50 square kilometres (Zone 327.5 sq. km) has been developed with an infrastructure costing 13.906 billion Yuan RMB. The Delta area offers a new world of opportunities to foreign investors, by way of either direct or indirect investments. The specially structured program will offer self-improvement opportunities to regional managers by cultivating and polishing their management skills, academic excellence and entrepreneurial spirit (Dellsperger, 1994).

The Program To Have Flexible Structures

Business education is now the core of higher education and nearly every university offers some program on business. When the author was in St. Petersburg in September 1992, a professor told him that Russia (now CIS) had no business schools and asked for detailed brochures on business education.

United States educators are currently "agonising over what exactly it is that an MBA graduate—or anybody else—will need to know or do to be effective in business a decade from now." And is it teachable?" (O'Reilly, 1994). It is clear that any program must be flexible to meet changes:

Every business school dean knows what to confidently promise: The ideal executive of the future—and every one of his school's graduates—will be a leader, not a mere manager. Global in outlook. Facile with information systems and technology. (O'Reilly, 1994).

The program, conferring the degree of Master of Business Administration, will be designed to provide an avenue for regional managers to obtain a management qualification of high quality without an interruption to their jobs (London Business School, 1994). Some basic thinking would be along the following lines:

1. certificate program (certain selected subjects)
2. diploma program (with additional subjects)
3. any first degree + some selected subjects + a dissertation and project.
4. work experience (assessable according to sales, assets, number of employees and responsibilities) plus certain updates (for example, Finance, Strategic Management, and Marketing) and choices of these majors.

Because of employment opportunities, young people in China are interested in and keen on studying for certificates, diplomas and degrees covering a wide variety of vocations and skills (Chiang, 1993; Chow, 1993; Lee, 1993). These programs will meet current needs and are likely to be popular. They will be structured to:

1. provide up-to-date coverage of essential management disciplines;
2. prepare students to be involved in an international business environment;
3. link theory with practice; and
4. develop the foundation for senior management.

The Program, The Philosophy Of Doing Business In China & Its Laws

Doing business in China involves many challenges, and the programs will be structured

4. The term "an emerging market" first appeared in middle 1980 when debt ridden developing countries deregulated their economics. Foreign investment has triggered an export boom for many of them and produced rapid stock price profits. They include those developing countries which allow foreigners to buy domestic equities or debt, whether directly or via mutual funds. Japan in the 1960's and Singapore in the 1970's were both emerging markets. Argentina and Brazil have been "emerging" for the past 70 years. (Source: Emerging Markets Analyst, special report May 1994.)
5. As a professional delegate in the Marine Technology Mission organised by the Citizen Ambassador Program, which was chaired by the US president, and was founded by Eisenhower in 1956 to promote scientific and technology exchange among the world's people.

6. Such as Financial Accounting, Quantitative Methods, Organisational Behaviour and Market Analysis. Reference drawn from Warwick MBA.
9. General reference to University of California Berkeley extension programs.
to teach students the philosophy involved, the risks, the rewards, the doctrine of caveat emptor, traps, pitfalls and a basic understanding of Chinese law. The students will be trained to develop first-class thinking skills and therefore be expected to be able to take their place with the present and the next generation of high calibre managers.

On 1 October 1949 the People's Republic of China was founded and Chairman Mao Zedong said that “the 475 million people in China have now stood up.” However, the real standing up came 30 years later. In January 1957, while talking to secretaries of provincial municipal and autonomous region party committees, he said that “the law must be observed and the revolutionary legal system must not be undermined.”

In 1979, modernisation of China began, with long-range planning, aimed at achieving full modernisation in industry, agriculture, science and technology and national defence. The development and prosperity of the Delta area is the result of these modernisation efforts.

This more open policy was further fortified by the revised constitution in 1982 (China's fourth). Article 8 specified that foreign enterprises, other foreign economic organisations and individual foreigners were allowed to invest in China and to enter into various forms of economic cooperation with Chinese enterprises and other economic organisations, in accordance with the law. Managers anywhere in China are expected to work under and to familiarise themselves with such a system. As managers, it is important to know how to attract investors and to work with them under the existing legal framework. In the meantime, there is not yet a predictable legal environment where business knows exactly what will make up its predictable profits. It is important to be taught its limitation and perils. In Hong Kong as in all English jurisdictions, law is supreme. However, in China, law is governed under constitution by four cardinal principles—socialism, people's democratic dictatorship, leadership of the communist party and the thoughts of Marx, Lenin and Chairman Mao Zedong. Law is therefore designed to be a part of subjects taught.

**Challenges Created By Disappearing Borders**

China, with a land area of 9.6 million square kilometres, and inhabited by 1.2 billion people, is a huge market in all counts. Deng Xiaoping introduced the element of competition with remarkable success. Students therefore will be taught to improve their capacity to lead in the context of increasing global competitiveness.

Deng did two things. One was to create a market economy in food, initially by freeing prices for most food, except grain, and finally by abolishing the agricultural communes as the unit of production and replacing them with family farms. The element of competition, introduced probably for the first time, produced a new incentive for doing business and created a relationship between demand and supply in the market place. The program therefore will be a good vehicle for students to increase their understanding of the driving forces which are changing the ways in which China's business operates and the ways by which successful businesses respond to these changes. Small business management is a valuable skill—all entrepreneurs start small. Many mammoth corporations start with a village-type operation.

The economy of the Delta area and Hong Kong is just like lips and teeth—the lips protect the teeth and the teeth back the lips. China supplies Hong Kong, at reasonable and competitive prices, with primary food products, daily necessities, fresh water and other industrial materials to ensure that Hong Kong operates at economic and environmental stability. China has 10,000,000 technologically trained workers. In addition, “every year, millions of young rural migrants from its landlocked provinces flood into Delta area for employment opportunities. Fifty to sixty million of these workers have left their ancestral villages in search of better-paying jobs in the cities—and more are on the way” (Window, 1994). Managing these available human resources (with different kinds of aspiration and ambition) requires attention.

Managers in the Delta area will rely on the Hong Kong infrastructures (before the area has its own) for professional services in every phase of commercial activity, efficient communication channels and market experience, not only in finding, tapping, maintaining them but also in exploiting them. They will also rely on Hong Kong to tap world financial investments through its stock exchange. Since most Hong Kong people are natives of the Delta Area, the borders rapidly disappear, merging the two into one—the Greater Hong Kong or the Greater Delta. Now 15,000 trucks cross the border daily.

Deng Xiaoping saw the potential of Hong Kong when he came down to South China in 1991. He decided to imitate Hong Kong on the mainland. In fact, the ready made “copy” is now in Shenzhen. His inscription near lunar new year, January 26, 1984 said “the development and
experience of Shenzhen have proved that our policy of establishing special economic zones is correct.” Jiang Zeming’s inscription in July 1990 reads: “Continue to do better job running Shenzhen SEZ and make efforts to explore a socialistic road with Chinese characteristics.” Deng Xiaoping revisited Shenzhen and the Delta area on 22 January 1992 to prove his point.

Stock Exchange, Investment & Financial Management

Although the capital market in the Delta area (the Shenzhen Stock Exchange) is developing rapidly since its establishment, and although the capital market in Hong Kong, just south of the border, is well established, students are expected to acquire academic and professional knowledge in investment management. By design they will be taught about corporate finance and investment management, company law (which is new in China), listing requirement and procedure.

Other than buying shares in Shenzhen Stock Exchange (with fully automatic trading system) (Vine, 1993) as a form of indirect investment and other than placing deposits with a bank for interest, there are other forms of investments, open to foreign counterparts. These include (a) Sino-foreign equity joint venture; (b) Sino-foreign contractual joint venture; (c) foreigners’ wholly owned enterprises; (d) compensation trade; (e) processing and assembling with materials and parts supplied by foreign suppliers; and (f) international leasing.

Special laws apply to the first three forms of investments. The equity joint venture and the foreigners’ wholly owned enterprises are corporations with limited liability. For the contractual joint venture, the contracts themselves define the rights and liabilities of the parties. Compensation trade is a contract under which Chinese enterprises undertake to deliver end products to foreign suppliers of technologies, plant and equipment and materials. Subcontracting processing and assembly and international leasing generally involves simple agreements.

Foreign funded enterprises may enjoy a number of preferential treatments on (a) enterprise income tax; (b) consumption tax, value added tax and business tax; (c) urban construction maintenance tax; (d) house property tax; (e) vehicle and vessel tax; (f) individual income tax; (g) preferential use of land; (h) permission for profit expatriation; (i) certain treatment of import and export tariff; and (j) special treatment of advanced technology enterprises such as permission to sell their manufactured products to China’s domestic market.

Marketing The Students’ Cooperation And Projects In The Delta Area

Pioneer investors are interested to know that Hong Kong serves as an excellent beachhead for setting up a business (industrial or otherwise) in the Delta area. “The People’s Republic of China, in Beijing, has caused many people to recognise that if you want to do business in China, you’ve got to start in Hong Kong” (Aldcroft, 1994). And the Delta area is simply next door. “When your roots are deep in local markets, you can see opportunities others may miss” (Morgan, 1994). This is where the Program comes in—teaching students to see the opportunities and to exploit them.

The student should gain a knowledge in marketing projects available in the Delta area. The economic zones in the Delta area regularly publish lists of projects which the area deems desirable and in which the area invites the interest of international parties. For investors who have a specific project in mind, they should make inquiries, provide a business profile, specifying what project they have in mind, what form the project will take and provide details of the amount of the investment available for the project and their proposed commitment. As part of the program students, with their active presence in the Delta area, will be trained on the presentation of logistic details, land required for industrial undertakings and administrative offices, the number of staff and labour requirements, and the annual consumption of electricity and water. Proposed measures to prevent pollution must also be specified. Of course, all should be properly documented on specific forms provided by the students who will be trained as general salesmen for the Delta area. The students will be trained to be able to advise foreign investors (especially those who are interested in their own enterprises or their products) to expect to be registered for taxation, for customs, for recruitment of employees, for examination of financial accounts, and on procedures for proper keeping of books and bank accounts.

Subjects On Energy And Environmental Management

China supplies Hong Kong with fresh water and the Delta area has adequate reservoirs providing enough water to industries in the area. On energy, Daya Bay nuclear station has a designed capacity of 1,800 MW, providing, on
full production, enough energy for use in the area in addition to Hong Kong. Environment protection with pollution control is practised by international professionals in every discipline and is, appropriately, included in the Stanford Engineering Executive Program.

The “Program University” Itself—Research And Teaching

Universities have at least two functions, research and teaching. They dispense knowledge through teaching, and produce knowledge through research (American National Council, 1992). The Delta MBA program, the author suggests, will be conducted by his Hong Kong Shue Yan College in a joint venture with a university in the Delta area.

This joint venture (the “Program University” for the purpose of this paper) will seek a link to the Research-and-Technology-Development-Partner database in Europe through the CORDIS\textsuperscript{10} for its research work. Since the Cambridge phenomenon, the importance and effectiveness of regional and local innovation systems (Innovation and Technology Transfer, 1994) is recognised through the science parks. The Program University will research on this project.

The mission of the Program University is to train managers to sustain the economic growth and social development of the Delta area where Hong Kong has a huge stake in its development and prosperity, to provide the highest possible standard of business education in a cost-effective manner, and to provide entrepreneurs and leaders for the benefit of the Delta area and its business.

The Program University will seek linkages with the Association of MBAs, the ISGs International MBA (French Government Accredited) and the American MBA (AACSB accredited) to assure its quality in research and teaching.

The Electronic University And “Delta”

The Program University (at least a part of it) will be an “electronic university” drawing on the experiences of higher education institutions in Europe and also the on-line courses offered by the University of Paisley\textsuperscript{11}. The Program recognises that students are “part of a new generation that grew up in the fast-paced world of television and personal computers, they are re-inventing how we design organisation, motivate employees and tap new markets” (Dumaine, 1994).

The Program will seek close links with the European Communities, DG XIII Information Technologies and Industries, and Telecommunications in its “DELTA”\textsuperscript{12} (Developing European Learning through Technology Advance)\textsuperscript{13}. In particular, it will seek to develop links through the following programs in Delta:

\begin{enumerate}
  \item D2001: TRIBUNE—Awareness Creation and Information Dissemination
  \item D2002: SMILE—Small and Medium-sized Infrastructure for distance Learning Experiments
  \item D2009: MATHESIS—Stand alone workbench for learners & teachers
  \item D2011: COSYS—Design and implementation of a computer-based course Production and Delivery Systems
  \item D2012: ILDIC—Integrating Learning Design In Computers
  \item D2013: MALIBU—Multimedia and Distance Learning in Banking and Business Environments
  \item D2014: DEDICATED—Development of a new Dimension in European Computer-Aided Teaching Education
  \item D2015: JITOL—Just in Time Open Learning
  \item D2016: EAST—Educational Access and Support Tools
  \item D2017: ARTICULATE—The Assessment and Evaluation of Learning Technologies
  \item D2020: ACT—Advanced Communications for Training
  \item D2023: CTA—Common Training Architecture
  \item D2105: Pedagogy and Learning Research for Flexible and Distance Learning
\end{enumerate}

10. Community Research and Development Information Service, Communautes Europeennes, L - 2985 Luxembourg
11. Recently available in Hong Kong through On Line Education, Fax 852 - 827 - 1718.
12. Strategic Objectives of DELTA: Education and training are regarded as key pre-conditions for a competitive and prosperous Europe, both in the context of the Framework Program and the objectives for a social Europe. The European Parliament conference A strong Europe—a competitive industry explicitly singled out education and training as an area to which the electronics industry must react to the external competition threat in a strategic, collaborative and unified manner. The possibilities offered by a new technology to the solution of the ”training problem” have been well documented and recognised.
13. Note that it is purely coincidental that “Delta” has been used in two separate contexts in this paper.
Funding The Program University

The Hong Kong Shue Yan College was established 22 years ago and was not subsidised by the Hong Kong Government in any form, other than the land on which the College was built, and rate concessions.

The Open Learning Institute of Hong Kong was established in 1989 as a result of a recommendation made by the Planning Committee for the Open Learning Institute of Hong Kong. It offered degree courses using distance learning approaches, by adopting an open access policy to working adults without requiring any formal academic qualification for enrolment, but it is now recognised that "the original intent to make the Opening Learning Institute a self-financing institution ... has been proven to be impractical and infeasible" (Tang, 1994).

The Program University will draw on the experience of the Hong Kong Shue College in its financing through course fees and public and private donations. It will also expect industry in the Delta area to provide student funding in some appropriate form. The United Kingdom looks to its industry to finance higher education by allowing higher education institutions to fund themselves by selling their product of knowledge (Hannemann, date unknown). As well as training opportunities offered by the Program, industry is also expected to "introduce more flexible pay arrangements, working hours and forms of employment in the Delta area to make the area more attractive. Greater mobility must be encouraged and incentives have to be created to allow entrepreneurial skill to flourish" (Dellsperger, 1994). "The industry will also benefit because the Program offers the employers a uniquely effective way to develop managers' capability without losing the contribution they are currently making" (London Business School, 1994).

The principles of the Open Learning Institute of Hong Kong are particularly applicable to this Delta MBA Program. For example, the Program will consider accepting examination in an open book environment14.

The Program And China's Demand For Management Talent

China, like any country with rapid growth, does have problems, some caused by the rising aspiration of young and a growing consumer society, and some by its double-digit growth. The rising aspiration of youth can be witnessed by the enthusiasm of young people who join training, vocational and university places. "Today, 16 years after Deng's ascent, it is clear that even Mr Deng himself saw how far his program of economic reform would eventually lead. Half of China's industrial output, and perhaps 75% of its total output, is now accounted for by private or "collective" firms; something drastic will have to be done with the half of industry remains in state hands" (Economist, 1994). Streamlining both requires a large quantity of management talent. It is hoped that the Program can meet these needs.

References


14. Reference, brochure of International Distance Learning MBA in Finance by Euromoney Training 1994 administered by the Institute for Financial Management, a joint venture between Manchester Business School, United Kingdom and the University of Wales, Bangor, United Kingdom.
University Networks in International Cooperation

Jim Shute
University of Guelph
Canada

You have to change direction if you don't want to end up where you are going (Lao Tze).
Human behaviour is a series of lunges, of which it is sometimes sensed, the direction is inevitable (White, 1975).

Universities, in my view, are major contributors to the values and behaviours that I assume are expressed by most people attending this conference. Indeed, one can scarcely discuss the themes of internationalism, globalisation, cultural sensitivity, evaluation, training and change without reference to one of the institutions most relevant to the analysis of these phenomena—the university. In this paper I would like to begin by outlining some elements of Canadian experience in internationalising higher education, continue by describing four networking approaches, offer a warning and conclude with a few suggestions for pushing international university networking further in anticipation of the dramatic arrival of the year 2001.

Internationalising Higher Education: The Canadian Experience

Though universities have for some time been a locus of global thinking and scholarship, it must be acknowledged how provincial and insular many of them have really been. Scholarship itself has been more global and supra-national than the universities that housed it, though my own undergraduate years are a testimony to the narrowness of the total learning environment in the late fifties. Perhaps those metropolitan nations like Britain, Spain, Portugal, France, The Netherlands and the U.S.A. that were forced by their colonial or post-colonial positions in the world to be somewhat outward-looking had an advantage, in that international and comparative scholarship could take root rather easily in their universities. For some of these metropolises, university networks were a natural outcome of decolonisation. My own country, Canada, by contrast (and doubtless a number of other such countries) was not guided after World War II by metropolitan ambitions or anti-Communist sentiments. It was not even particularly cosmopolitan. Most of what has happened in the direction of internationalising Canada and its universities occurred after 1950, and especially since 1970.

As Canada matured into a so-called middle power following World War II, its universities began, albeit in an unplanned fashion, to reflect a new set of emerging global realities. It was 1950 that marked the initiation of the Colombo Plan of technical assistance which brought substantial numbers of Asian students to Canadian campuses for the first time. The Commonwealth Scholarship and Fellowship Plan was set up in 1959 and together with the beginnings of organised official development assistance and rapidly growing Canadian participation in UN agencies, Canadian universities were drawn into international affairs on a much larger scale than previously, welcoming and providing academic programs for hundreds (later thousands) of international students. Walmsley (1970), author of a major analysis of international development activity in Canadian Academe, suggested that
Canadian “academics found themselves involved internationally more or less in spite of themselves” (Walmsley, 1970 p 3). This accidental unplanned and coincidental development characterised the international activity of most Canadian universities in the period up to 1970 and even beyond.

Nevertheless, individual scholars and institutions had earlier begun to take a wider view. Hamlin (1964), in his review of international studies in Canadian universities, pointed out that in 1947 it was possible for a BA student at the University of British Columbia to do a degree in international relations (probably the first major disciplinary manifestation of international study in Canadian universities). This was not a mean achievement, given the fact that in 1942 only six Canadian universities offered political science as a discipline. Even more noteworthy is the fact that in the 1920s Dalhousie offered a course in international relations and several universities, as early as the aftermath of World War 1, offered courses in international law (Hamlin, 1964). But academic exchange and other forms of international university cooperation were still a long way in the future.

The forces of rapid decolonisation, Canada’s evolving middle-level international roles (especially following the Suez Crisis of 1957), the rapid growth in visa student numbers and the growth of Official Development Assistance influenced universities most directly in the sixties and seventies. This influence provoked at least token recognition that, in teaching especially (if not until later in research), universities needed to acknowledge the sweeping changes in world realities. The watershed was the creation of the Colombo Plan in January 1950 by seven diplomats from Australia, Britain, Canada, Ceylon, India, New Zealand and Pakistan. This event marked the beginning of Canadian bilateral international assistance as a formal and organised expression of Canadian foreign policy.

From that decision evolved two main themes that have characterised the international dimension of Canadian universities ever since—the visa student presence and development cooperation. More recently, the repertoire of international activity has grown rapidly, with the current explosive growth of study abroad and exchange programs probably being the most significant growth area. I suggest that, at least in Canada, these two major forces—the visa student presence and development cooperation—have strongly influenced the rapid emergence of exchange and study abroad opportunities. As of 1994 the Association of Universities and Colleges of Canada (AUCC) databases identify over 1,500 formal linkage agreements between Canadian and overseas universities and over 2,000 development cooperation projects linking Canadian universities and universities in the South. Of 71 Canadian universities responding to a 1991 AUCC survey, 68 percent offered study abroad programs (Doiron, 1992).

Organising for International Cooperation

Several authors have described the portfolio of activities characteristic of universities attempting to “internationalise” (Knight, 1993; Harari, 1989; Klasek et al., 1992). My list, at least for Canadian universities, includes study abroad, student and faculty (staff) exchange, international content in curricula, area and international studies programs, development cooperation (formerly “development assistance”), inter-university linkage agreements, collaborative research and university partnerships within Canada for international collaboration. My list continues with the inclusion of development education (both on the campus and with local communities), library and resource base development, reception of visiting scholars, language study, private sector partnerships in development cooperation projects, student work placements (cooperative education) abroad and the presence of visa students. Finally, to support this array of activities, a reception protocol and coordinating and administrative apparatus must also be included.

Of course, not all universities can or should duplicate this list; institutional cultures vary and so will approaches to internationalisation. Nonetheless, any university in the North—and many in the South—intent on cultivating international university networks will need to consider seriously which of these activities they will pursue. Whatever the options for any particular university, some elements of international networking are likely to have some priority. Such networks frequently originate with individual academics whose interests prompt the establishment of university-to-university agreements (or agreements between departments or faculties). It therefore becomes important for universities to establish formal mechanisms for scrutinising and approving such agreements to ensure both their academic and logistical integrity and that the interest base in the university extends beyond the individual
who may have initiated the agreement. We use for this purpose a committee that reports to our Board of Undergraduate Studies. Perhaps an important first step, however, is to establish a philosophical rationale for participating in international networks, probably through a mission statement that spells out the university's objectives and the extent to which the international dimension serves those broader university goals.

Several examples of international networking may be worthy of mention at this point:

1. South-North Networks. A number of exchange and study abroad opportunities have emerged from 25 years of development cooperation linking universities in developed and developing countries. Admittedly, these programs tend to benefit, for financial reasons, the more affluent students from the North and less so the more economically disadvantaged students from universities in the South. Other problems, in addition to cost, make these networks difficult to maintain, like uncertain communication, the difficulty of ensuring academic quality and the risk of paternalism. In Canada, most South-North university networking builds directly on earlier development cooperation. This is true, as well, for some other university partnerships. For example, in 1982, the University of Guelph and Wageningen Agricultural University in The Netherlands initiated triangular links among the two universities in the North and several universities in the South with both have worked over some years (see van den Bor, Shute and Moore, 1989; Shute and van den Bor, 1993). The tie to development cooperation continues, frequently, with the great advantage of access to funds associated with Official Development Assistance. A new mechanism in Canada supports two tiers of North-South university cooperation within the Official Development Assistance funding envelope.

2. North-North Networks. Most university networks linking Canada with other countries are Eurocentric in that the long-standing historical and cultural links with Western Europe, Australia and New Zealand have led to all kinds of university connections with those areas of the world. More recently, it has become easier to extend those connections to Eastern Europe and the former Soviet bloc, usually, in Canada's case, for the same cultural and historical reasons. For these networks, funding is thin indeed and is usually generated on a case-by-case basis. One exception is The Ontario-Four-Motors program which links Ontario universities with universities in individual states or provinces of Italy, France, Germany, Spain and, more recently, Wales, as one part of a larger cultural agreement. Ontario students studying in those universities receive some provincial government support. (Canadian students do not typically receive grants for university study and need to find most of their own funds). Extending this model to exchanges with other jurisdictions in the world would hold some appeal, I suspect, for Canadian universities.

3. The Commonwealth Network (CUSAC). In 1992 the Commonwealth Secretariat proposed a student mobility scheme designed primarily to increase the flow of undergraduate students within the Commonwealth from North to South. In 1993, 11 universities in Australia, Britain and Canada formally linked with 17 in the tropical Commonwealth to implement this plan, called the Commonwealth Universities Study Abroad Consortium (CUSAC). In all, 11 countries and two regions (the Caribbean and the South Pacific) have agreed to promote student exchanges. Shared academic culture, a common language (Malaysia excepted) and a formal framework were the advantages to the scheme cited by Elizabeth Dines (Dines, 1992). Subsequent meetings in Delhi, Swansea and Swaziland have fleshed out the concept, formalised it in a signed multilateral agreement and begun to make it operational. In the 1994-95 academic year it is expected that, despite the standard difficulties of the lack of financial support (even from the Commonwealth itself) and communication difficulties among and between continents, a number of students will be on the move within CUSAC. An unanticipated benefit of the scheme is that Australian, British and Canadian partners within CUSAC are now exchanging students and strengthening university relationships North-North within the Commonwealth.

4. In-Country Networks. Finally, we in Canada are developing in-country networks in support of various kinds of international activity. Somewhat analogous to Europe's ERASMUS, we have links with other Canadian universities to support student mobility among our provinces, for example, CUSEC (Canadian University Student Exchange Consortium). Intra-Canadian consortia have also been established to collaborate in development cooperation with
partner universities in the South under Canada’s ODA program. In the past two years we have also developed partnerships with private sector firms in order to bid on development projects related to human resource development in the South. One such arrangement, the Canadian Higher Education Group, links five Ontario universities (Guelph, Western Ontario, Waterloo, Carleton and McMaster) with a private firm.

A Warning

Universities, it could be argued, have long (if not always) been committed to and participants in global knowledge networks. The generation, explanation, storage, dissemination and even application of knowledge, from ancient times to the present, has been the mission of universities. The image of the itinerant medieval European scholar has evolved into the academic connected to colleagues around the world by fax, e-mail, consulting assignment, external examining, journal subscriptions and conferences, not to mention shared degree training and the “old-boys/girls networks.” Intersecting circles, groups and disciplines link Academe globally and academics move about more easily now within the global university system, across cultural and linguistic divides, than their medieval forebears ever could. The languages of computers, science, mathematics, social science and the humanities communicate more powerfully than any *lingua franca* in history. This evolution, though now apparently characteristic of our time (at least for those within the world academic community who have access to such networks), has occurred both rapidly in pace and globally in scope. As the 21st Century looms, there may be those who conclude that, on the whole, universities have achieved all the success in global networking and cross-cultural linkages and understanding that is required—and further, that given worldwide resource constraints, universities should now concentrate on maintaining their level of success rather than scrambling to intensify and expand their international networks.

In industrialised countries, the view has surfaced that economic globalisation, regional trading blocks and related forces require universities, as institutions reflecting national values, to foster competitiveness and “excellence” and to contribute in directly measurable outputs to positioning their societies more advantageously in the global economy. This view is buttressed by those economic pressures that force universities to contract and streamline, to collapse and eliminate programs, to slash budgets and to reduce numbers of both staff and students. Being “lean and mean” and “doing more with less,” as in the corporate world, are seen as desirable attributes in this approach. One usually unspoken assumption accompanying this perception is that some disciplines are more important than others—fields like natural science, engineering, health, business and commerce, management and administration, and perhaps some applied social science. Broad-spectrum, comprehensive university programs are thus threatened. One of the many potentially negative consequences of this conception of universities, at least in countries like Canada that support a strong and costly higher education superstructure and that enrol high proportions of post-secondary students, is that some university administrators may be tempted to cut back on international links as they cut back in general, to reduce resource allocations to their international commitments as financial resources are pinched even tighter. Unless we guard against it, this thinking could mean pulling back from global university linkages and networks, at least from those that do not serve “competitiveness,” “globalisation” and economic advantage. The university as the focus of teaching and learning about the “universe” would then take on a shape and a mission that many would find both alarming and retrogressive.

To Conclude

This paper is predicated on the assumption that effective university networks of various kinds are necessary for the increase in international understanding and cooperation for which most of us wish. Several severe obstacles prevent rapid realisation of these networks, among them financial shortages, language barriers, disciplinary hierarchies, communication difficulties and wavering institutional commitments. Eurocentrism, too, hinders the achievement of balance in global university relationships. The overwhelming majority of exchange students and degree students from industrialised countries study in other industrialised countries. Global realities require a better balance; the CUSAC scheme is an admirable attempt to redress persistent imbalances in international university connections. Eurocentrism, deliberate or unconscious, violates the principle of balance and a more equitable and realistic notion of what is genuinely international for universities. Neither retrenchment nor continued...
Eurocentrism will advance the cause of universities themselves or of the values of internationalism. Thus the warning of Lao Tze with which I began is very apt.

What antidotes are available and practical? One is clear institutional policy and commitment to balanced international partnerships, preferably embedded in mission statements. Another is the quality of direction and support offered by senior university administrators. Still another is a university mechanism to promote, coordinate and service international networks. Perhaps most important is the presence of motivated students and seasoned academic staff, the front-line participants (and principal beneficiaries) of all international university networks. Without their enthusiasm and energy, international university cooperation will not flourish. Beyond these institutional measures, over which we have some control, lie of course the political structures and financial supports required from our governments (and private sector interests) over which we typically exert little influence. A blend of serious government support and university encouragement would advance immeasurably the impact of university networks in international cooperation.

References


Simulation of Classroom Teaching for Distance Education Students

Mehryar Noorafshar
University of Southern Queensland
Australia

As suggested by Gwinnett (1986), the benefits of Computer Assisted Learning (CAL) as a learning tool are indisputable. It provides a means of self-regulated study which, unlike reading, provides positive feedback and gives direction to students' progress.

Simulation of classroom teaching was developed as a Computer Assisted Learning (CAL) tool for one of the quantitative subjects of the Logistics and Operations Management discipline.

This prototype system was tested by providing students with a copy of the software. According to the participating students, particularly external and overseas, this form of simulation of teacher and student interaction is an effective method of learning and revising the subject. Hence, it is envisaged that further research will be undertaken to explore this area and produce similar systems for other subjects.

An Overview of the System

After loading and running the software, students are asked to provide answers to a set of problems. If the solution provided by the student is correct, the student receives an encouraging comment from the system. Further questions may also be asked to ascertain that the student has a thorough understanding of the concept. The feedback from the teacher (system), which is intended to simulate a “pat on the back,” will motivate the student to participate and answer further questions.

If, on the other hand, the student does not provide the right solution, the teacher (system) will direct the student towards the correct solution in a multi-level style. For example, hints may be given or part of the solution may be displayed on the screen. Hence, students are guided and directed towards finding the correct solution. See Figure 1 for a diagrammatic representation of communication.

Figure 1. Diagrammatic Representation of Communication
Example of a Typical Session for a Calculus Application

The following is an example of a typical session with the system for Question 3, which is intended to reinforce the topic of elasticity of demand as an application of calculus:

**QUESTION 3**

Elasticity of demand for an electronics product at a given price (p) is $E = 0.4$. How do you interpret the results?
1) The manufacturer is a monopolist.
2) The manufacturer is making a loss.
3) None of the above.

If option 1 is selected, the system prompts the following message on the screen:

Incorrect ... On what basis can you claim that the manufacturer is a monopolist? We have no information on that. Refer to the section titled 'Applications of Calculus 2-elasticity of demand' in your study book. Remember that elasticity of demand is a ratio (% change in demand over % change in price).

Press <Return> to try again.

If option 2 is selected, the system will display the following message on the screen:

Incorrect ... Why is it making a loss? Refer to the section titled 'Applications of Calculus 2-elasticity of demand' in your study book. Remember that elasticity of demand is a ratio (% change in demand over % change in price).

Press <Return> to try again.

If option 3 is selected, the system will display the following message on the screen:

Correct ...

Elasticity of demand for an electronics product at a given price (p) is $E = 0.4$. How do you interpret the results?
1) 1% increase in price is associated with 0.4% decrease in demand.
2) 0.4% increase in price is associated with 1% decrease in demand.
3) 1% decrease in price is associated with 4% increase in demand.

If option 1 is selected, the system will display the following further message on the screen:

Yes ... Therefore, demand is:
1) Elastic
2) Inelastic.

If option 2 (Inelastic) is selected, the system will produce the following further message on the screen:

Correct. Well done.

Conclusions and Future Plans

The concept of simulating teacher and student interaction has been demonstrated by developing a prototype system for one of the subjects in Operations Management. Providing a self-regulated study with positive feedback has been recognised as one of the most important features of this method of learning for external and overseas students. It is envisaged that future developments in this area will incorporate an extended knowledge base to deal with individual cases. Therefore, the system's recommendations will be different for each student. Other future development will include provisions for simulated voice to produce the required output.

References


Malaysia needs to support and expand its research and development (R & D) capabilities to support the transfer and development of technology. A comprehensive policy on science and technology must be established to create the necessary conditions under which technology may be built up efficiently to support industrial growth. Using the R & D in institutions of higher learning together with the cooperation of industries, Malaysia will be able to adopt and improve technology as well as promote the development of indigenous technology (Hanizah & Sahol Hamid, 1993).

The emerging new patterns of high technology industrial production must be supported by R&D efforts. For R&D there must be a sufficient number and quality of scientific and technological researchers. The number of full-time research scientists and technologists who are available in Malaysia is low. Currently, the number of full time scientists and technologists number around 7000 (Abd, 1993). In comparison with industrialised countries this gives a ratio of 400 per million as compared to 6000 per million. By the year 2000, Malaysia is required to increase the rate by 1000 per million (Hanizah & Sahol Hamid, 1994).

**Discussion**

*Malaysia’s Strategy.*

To achieve the above the Malaysian government is investing huge amounts of money in education. The encouragement and support for education are overwhelming. The institutions of higher learning have been asked to expand research activities to improve R&D. Corporate and industrial sectors have been encouraged to support research activities to improve and expand R&D, and to indulge in research activities themselves. More and more people have been asked to train as scientists and technologists. Twinning programs and joint research activities have been encouraged between foreign universities. Education can be a medium to bring foreign industries and Malaysian industries together to promote technological transfer.

Investing in human resources development, especially at the doctorate level, is very costly. Industries and corporations find difficulty in sending their staff for training courses. It takes a long time and costs a great deal. As part of human resources development to train scientists and technologists, between 50 to 100 people are sent overseas for their doctorate programs every year. For a 3 year program it costs almost RM$300,000 per person. Some even take five years to complete the programs.

From 1994, MARA Institute of Technology (ITM) is pioneering a new concept in staff training for their lecturers. In collaboration with universities in the United Kingdom they encourage their lecturers to pursue their doctoral programs through distant learning. Being a distant learning student, they only spent a few months of their program overseas. During the remainder of the time research is carried out in ITM with the help of local supervisors. The research is carried out based on Malaysian R&D requirements. With the advent of super computers, electronic mail and video
conferencing facilities, the student is constantly in touch with the overseas University where he or she is registered as a distant learning student.

E-mail, Computer Teleconferencing and Video Conferencing (Robinson, 1992; Cross & Raizman, 1986)

E-mail is a communication system using electronics that is used to send information from one person to another or from one person to many people at the same time. Depending on the type of system used, electronic message can comprise data, text, audio or graphic information. However, unlike regular letters that are written on paper and posted, E-mail messages are entered into a computer terminal and then transmitted electronically, beaming across skies and oceans, arriving almost instantaneously instead of taking 5 or 6 days to reach their destinations.

E-mail enables communication to take place regardless of the geographical locations/time zones of the sender/recipient, weather, holidays and postal delays. Students can easily communicate effectively with their universities and supervisors. They can even log on to the library and computer facilities of the universities concerned. They can also request for research papers to be sent to them through the library hence using the universities' facilities as if they are there.

A computer teleconference is a meeting in which remotely located participants access their computer terminals and communicate. They do this in much the same way as they use electronic mail. However, it differs from E-mail such that a large group of people can communicate simultaneously. Educational coursework and projects that involve many people at many different locations can be carried easily be means of computer teleconference. Computer teleconference is actually the meeting of minds. Alternatively, the audio teleconferencing allows meetings or discussions, held by using a telephone system. Computers and communicating word processors are also used to transmit text and graphics during an audio conference.

Like electronic messages, voice can also be transmitted and stored. Voice mail is an easy, economical way of communicating through computers. Voice mail is entered through personal computers that have voice telephone capabilities. Voice mail messages reach the recipients by alerting them periodically until they request the messages. Voice mail is especially useful for distant learning students who are located in different time zones.

Video conferencing is related to E-mail. Unlike E-mail it is not a store and forward scheme. Instead it shows both or many communications an immediate video and audio signal from the other communicators. It isn't cheap but the trend is catching on in Malaysia. It requires a fast network, a powerful PC with graphics hardware additions, a video camera at each end of the line and the right software. PhD. Viva can be conducted through video conferencing. The time and expense of travel to attend the PhD Viva can be far more expensive than the cost of usage for a video conferencing session, especially if it is for educational purposes.

Advantages of a Distant Learning Doctorate Program

The advantages of the Distant Learning PhD program initiated by ITM are as follows:

1. It is in line with Vision 2020 to produce more scientists and technologists. With the flexible distant learning program more people can be encouraged to pursue doctorate research locally.

2. It provides opportunities for prospective students with working spouses and large families to pursue the research locally.

3. It reduces the cost of manpower training. More people can pursue their doctorates for the price of one sent overseas.

4. Such program encourages participation from industries and corporations. Costs are minimised. Scientists and technologists can pursue their doctorate research while still in full employment.

5. Such programs encourage and stimulate research and development in the private sectors.

6. Research carried out will be Malaysia-based and will benefit R&D directly.

7. More research facilities and laboratories can be built through the local research effort.

8. With better collaboration with foreign universities, the transfer of technology can be further enhanced.
Conclusion

The support given by the Malaysian Government for education is very encouraging. To enable Malaysia to achieve Vision 2020, that is, industrialisation of Malaysia, it needs to develop and expand its R&D capacities to support the transfer and development of technology. Post graduate research is encouraged by the government for all sectors to stimulate R&D. However post graduate studies are currently costing the country a fortune. To encourage R&D, distant learning doctorate programs are appealing to many people from the various sectors. ITM is pioneering the effort to encourage distant learning PhD programs to its staff and allows people from the industries to enrol in their programs. With the advent of super computers, electronic mail and video conferencing distant learning education has become more appealing not only for academics but for scientists in the corporate and industrial sectors. With the encouraging acceptance of distant learning, it is hoped that new improved knowledge on science and technology will be transferred into Malaysia, and ultimately play a role in strengthening domestic technological capabilities.

References


• • •
Stopping the Ears While Trying to Steal the Bell: Instructional Design Practices in Distance Education and the Post Modern Debate

Jane Widdess
Edith Cowan University
Australia

I was fortunate enough to study externally at Murdoch University at the end of the 1980s, and armed with this direct experience of distance education I was happy to take up an appointment nearly four years ago at Edith Cowan University’s Distance Education Division. This paper started out as a response to a presentation at last year’s Distance Education Conference in Adelaide, where, for the first time, I made contact with other students and colleagues who shared my interests in linguistic philosophy, epistemology, the constructed nature of “reality” and the way that language mediates between ourselves and the world. I had long felt a sense of unease at the structured and packaged approach to distance education, the commodification of education and the emphasis on form over content and superficial rote learning over the more dialogic, discursive approach prompted by the postmodern debate in education.

Discussion
To educate means, after all, to lead out, and not simply to instruct. I had sensed that conformity was being valued over creativity and that a too narrow definition of instruction was stifling creativity, growth and learning. I was also becoming very conscious of the dwindling of face to face communication at my work place where voice mail seemed to be replacing real time conversations and e-mail was more and more providing intellectual stimulation and focused debate. The virtual campus and computer networking were making it easier to issue an instructional memo of the “do this, then do this, then do that,” variety than to enter into face to face dialogue, with its potential for the unexpected, for badinage and even for the seriously joking response, difficult to replicate in written form.

Patrick Palmer (1993) pin-points linguistics as the starting point in improving performance in course teams because what most teams mostly did, in fact, was talk. But in this “talk” (which is more and more likely to be mediated through some of the technologies I have just mentioned) several different fields of discourse are being simultaneously employed, some knowingly, some not. Herein lies the problem; ironically enough since course teams are all in some way specialists in language and education. By introducing meta-narrative into the discourse of instructional design I think Palmer has done distance education a great favour. However, as is the nature of the postmodernist debate he has, by raising these questions prompted further questions, which I, as a worker in Distance Education feel able to address. First, the question of categories is raised: as Trinh T. Minh-ha (1989) has written:
Despite our desperate, eternal attempt to separate, contain and mend, categories always leak. Of all the layers that form the open (never finite) totality of “I”, which is to be filtered out as superfluous, fake, corrupt, and which is to be called pure, true, real, genuine, original, authentic? Authenticity as a need to rely on an “undisputed origin,” is prey to an obsessive fear: that of losing a connection. The real, nothing else than a code of representation, does not (cannot) coincide with the lived or the performed. A realistic identification with such a code has, therefore, no reality whatsoever: it is like “stopping the ear while trying to steal the bell” (Chinese saying). (p. #5).

I perceive a real attempt within some instructional design practices to make just this false connection to a code of reality which is claimed as authentic and assumed to be universal. By failing to acknowledge that all knowledge is mediated and that language itself is not and cannot be an exact and accurate description of reality, instructional designers of the behaviourist and positivist school are stopping their ears while trying to steal the bell.

**Instructional Design Discourse and Gender**

As Palmer (1993) rightly asserts it is language that has the power either to hold a door open for the transmission of knowledge or to close it. Systems of human thought depend upon it and issues of power and control both reside in language and are transmitted through it. It is easy to miss the distinction between sexism in language and sexism projected on to language by systems of linguistic analysis (Cameron, 1992). It is through the metalinguistic practice of talking about language that issues of class, race and gender can most easily be lost, subsumed into a universalist discourse that is blind to these issues of difference and inequality. Feminist linguistics offers sharp criticism both of our everyday discourses and of linguistic analysis itself. Two theoretical questions are raised: What makes sexist language problematic? What can be done about it? Let me begin by inserting gender into Palmer’s list of meta-narratives that he identifies as being among the many stories those of us on course teams tell ourselves:

**Metanarrative #1:**

I /i am a mature and responsible adult male/female, able to relate to and co-operate with a range of other professionals (mostly male) in a meaningful and productive way.

**Metanarrative #2:**

I/i have professional educational (gendered?) knowledge and expertise, which academics (mostly male) don’t have and am able to inform course teams through this knowledge and expertise.

**Metanarrative #3:**

I/i am a pleasant and accommodating male/female and have no issues about power and control.

**Metanarrative #4:**

I/i as a gendered subject can work with you, also a gendered subject so let’s concentrate on the students (mostly female in distance education) and produce the best learning materials for them.

Immediately it becomes apparent that our use of the subjective forces us to opt for gender, and this choice has buried in it a whole series of hidden hierarchies which at first appear to be simple binary oppositions. It also raises questions of power and control outside and beyond those suggested in M#3, and it is these issues that need to be considered now.

**The Gender-Neutral Definition of Sexism as Embodied in Instructional Design**

Historically most class room teachers have been women but most instructors in industry and the military have been men. Most of our child care and child rearing has historically been undertaken by women, leaving men free to become captains of industry or at least cogs, and military leaders, or at least cannon fodder. It comes as no surprise to find that as education becomes subject to the demands of late capitalist production (high tech, not low tech, market driven not needs driven, subject to the tendency of the rate of profit to fall and to economic determinism) that distance education as a product (not as a project) is being led by principles of educational and economic determinism. Many distance educators would agree that the battle between the positivist behaviourists such as Skinner, and the structuralists, such as Chomsky, is all over. Nerida Ellerton and Ken Clement’s (1994) recent book offers several illuminating narratives—I recommend the parable of the bricks (p. 184). To quote from the introduction:

As the story unfolds (of contemporary Australian education) the minefields associated with behaviourist approaches, the lack of research support for policies deemed by bureaucrats to be non-negotiable and the crumbling pathways carved out by poor consultative processes are revealed (p xiv).

I want to look at the new challenge of the continental theorists such as Barthes, Foucault and Derrida, still to be taken up in our thinking about Distance Education, and most particularly at the issues of power and control that are laid bare when and where gender neutral language is employed. In these models men and women no longer exist, only persons appear. This usage is at
first sight a more accurate usage than the old 
generic masculine pronoun which was held to 
include women automatically. It also 
acknowledges the liberal western ideal that “we 
are all individuals” and as such are all equally 
oppressed by restrictive sex role definitions. 
Narrow role definitions are restrictive, but they 
are not equally oppressive. Sexism is a system in 
which women and men are not simply defined 
by their difference: like racism, sexism works to 
the disadvantage of most women and to the 
advantage of men, there is difference but more to 
the point, there is unequal treatment.

The adoption of gender neutral terminology 
may, at times, mask this social fact. Students rely 
on their teachers’ presentations of factual 
information and distance educators have a 
responsibility to ensure learning material is as 
accurate as research and the conscientious use of 
language can make it. Students also know that 
for the most part there are still two genders and 
these are now known as men and persons. I 
would not disagree that in following the 
linguistic prescriptions of instructional design 
even the most unimaginative writer is now able to “eliminate gross bias without gross 
inlegance” (Cameron, 1992) simply by reference 
to lists of alternatives such as “persons” for “men” and “staffing” for “manpower,” and for 
that alone we should be grateful, but there is a 
tendency for instructional designers to believe 
that by simply retouching the surface make-up of the text, by linguistic reform, so to speak, the 
problem of sexism in language is thereby 
addressed. By focusing on the word and not on 
its meaning (the more easily if the belief persists 
that the word holds an unproblematic mirror up to reality), it becomes possible to imagine that real change has occurred. The limitations of this 
application of instructional design principles in 
practice have been discussed by many linguistic 
theorists (Spender, Cameron) so I will not 
elaborate the point further. Suffice it to say that 
more current views see language as fluid, 
polysemic and context dependent and this view 
may be coupled with the understanding that 
language, when isolated and distanced from its 
social constructions becomes a bloodless, 
computer screen gray, mere words on a screen 
devoid of significance of social force or meaning.

Binary Oppositions and Metaphorical Gender

Jack Rosenthal (1990) conducted a “thought 
experiment” in which people were presented 
with the following pairs of words and asked to 
give them gender (Cameron, 1992):

Knife/fork
Ford/Chevrolet
Salt/pepper
Vanilla/chocolate

The results were surprisingly uniform in 
their agreement that knife, Ford, pepper and 
chocolate were masculine (m) and fork, 
Chevrolet, salt and vanilla were not. Therefore 
they must be feminine (f). Cameron makes the 
following three observations:

• Since all the words refer to ungendered 
objects or substances, concepts of “masculine 
and feminine” are infinitely detachable from 
anything having to do with “real” sexual 
difference.

• The classification does not seem to obey any 
single, logical principle. Rosenthal speculates 
that pepper and chocolate may be classed as 
masculine because they are stronger flavours 
than their contrastive pair; that Chevrolet 
sounds “French” because of its open vowel 
ending and knife has connotations of 
aggression and is therefore more masculine 
than fork. But simply by adding more pairs, 
more and more different dimensions are 
called in to offer explanations, suggesting 
that the concepts of m and f operate 
conceptually at a highly abstract level, 
subsuming a number of lower-level more 
obvious contrasts like strong: weak and 
active: passive.

• The attribution of gender is relational: it 
dePENDs on the contrast between the two 
terms and not on the terms themselves. If the 
question is posed as: Is salt m or f there is no 
clear answer, the question only makes sense 
if we are asked to compare salt with pepper. 
Further, if one part of the pair is changed, the 
gender may also change. If people are asked 
to evaluate spoon and fork, then many will 
opt for fork as masculine, in relationship to 
spoon. If fork is feminine in relation to knife 
yet masculine in relation to spoon, clearly 
there is nothing inherently masculine or 
feminine, even at an abstract or nonliteral 
level in the words themselves. Saussure 
(1974) has long established that signs are 
defined not by their essence but by their 
difference, a point taken up by continental 
theorists to good effect. In looking at binary 
oppositions we are in fact looking at hidden 
hierarchies; in every case one side of the binary is privileged over the other.

Instructional Design & Materiality of Language

Kristeva (1989) identifies two stages in the
relation between the speaking subject and language, the first being the early stage of myth and legend, when language was used but not analysed. Secondly is the current assertion that language can be grasped as an object of knowledge in itself through the study of linguistics, which enables us to understand not only the laws of languages' own functioning but also all that concerns the social realm; how language works in social discourse. This latter conception of language as the "key" not only to humankind but also to social history marks Kristeva's second epistemological stage: Linguistics teaches not only about languages but also about the vast realm of human actions that make up social practice.

Considering man as language and putting language in the place of man constitutes the demystifying gesture par excellence. It introduces science into the complex and imprecise zone of human activities where ideologies and religions are (usually) established. Linguistics turns out to be the lever of this demystification; it posits language as an object of science, and teaches us the laws of its functioning. (Kristeva, 1989, p. 4).

According to Kristeva when we say language we say at the same time demarcation, signification and communication and in this sense all human practices are a kind of language, or encoded meaning system, including the practices of instructional design and distance education. Some models of instructional design have fallen headlong into the trap of affirming that language is merely the instrument of thought. From this it follows that by clarifying the language of a learning package (take the push for Plain English as an example) the true meaning is somehow expressed more efficiently and effectively, much as one might squeeze the juice from a grape, to use Simone de Beauvoir's (1963) metaphor. In fact it might illustrate my point concerning the error in some instructional design thinking to quote directly from de Beauvoir as she writes about her childhood experiences with language:

As I had failed in my efforts to think without language I assumed that this was an exact equivalent of reality; I was encouraged in this misconception by the grown-ups, whom I took to be the sole depositories of absolute truth: when they defined a thing, they expressed its substance in the sense in which one expresses the juice from a fruit. So that I could conceive of no gap into which error might fall between the word and its object; that is why I submitted uncritically to the Word, without examining its meaning, even when circumstances inclined me to doubt its truth. (p. 17)

These two errors, first that language is independent of thought, and second and opposing, that language expresses reality perfectly, leaving no room for arguments about meaning, are both equally naive. de Beauvoir subsequently learnt that language is both more and less flexible than these theories imply: its meaning can be guaranteed neither by reference to the speaking subject's own private experience, like the search for authenticity outlined by Minh-ha (1989) in my introduction, nor by invoking some fixed, authoritative reality or essence outside the discourse. When words fail us, as they so often do, we have only other words to fall back on to clarify our position as speaking subjects, in short the representation of experience through language is partial in every sense of that term (Cameron, 1992, p. 190).

If meaning is complex, plural and ultimately open-ended we cannot simply assume that our meaning, the meaning we intend to convey, is the one that is ultimately received. Communication is by definition not individual but social. The social norms which regulate and control public behaviour form the context for the linguistic or communicative act and it is the normative social practices regulating what will be accepted as good writing for distance education that allow for the possibility of elite power and control over language in that discourse. This normative vision of the signifying operation cannot study the multiplicity of signifying practices without relegating some of them to a pathology to be suppressed. Edward Sapir (1949), the linguist, has noted that it would be inaccurate to confuse language with conceptual thought, as now sometimes happens in models of instructional design. Language, he claims, is above all an "extra-rational" function, falling outside the subject's reason through its materiality and the practices of difference and system to which it is subject. Some ways of talking or writing can acquire prestige while others are disparaged; some definitions of the world are favoured over others, some ideas are met with blank incomprehension or made to look ridiculous, while others can be made to look "natural" "commonsense" and "true" (Cameron, 1992).

While language, then, is a practice realised in social communication and by means of it, language constitutes a material reality that while at the same time being part of the material world (ontology) acts as our link with what is not language, that is with the outside be it nature, society or even the distance education student that exists without language even if it cannot be named without it. This (often female) student, isolated, often not communicating in real time, is
the ideal candidate for experiences of alienation and lack of communication and it is our challenging task to surmount these barriers with the best possible communicative materials for study.

The Materiality of Language

If we refuse to allow ourselves to think of language as an ideal system, closed in upon itself (as the formalists would have it) with an existence somehow outside ourselves and our societies (the liberal idealist view) and if we also refuse to allow ourselves to think of language as a mere copy (mimesis) of a regulated world that somehow exists without it (the realistic attitude) then we are in a position to speak of a "materiality" of language. Words have not simply fallen from the sky, sprinkled down by god, nor have they merely evolved in direct imitation of the object they set out to signify. The relationship of language to the material is both basic and yet still strongly contested in the teachings of the liberal idealists since it raises questions of power and authority that are often better avoided in the interests of growth and stability in the status quo.

Palmer's (1993) article selects some of the totalising fictions that can be currently identified in the discourse of instructional design teams. Totalising fictions, that is, complete stories with beginnings, middles and ends, with no loose ends to the plot, function by ironing out and ignoring or denying awkward discontinuities and differences. Cracks that become too large to be ignored or papered over can, if left unanswered, become yawning chasms between team members (most instructional designers operate in teams of some kind). Far from "going away if we ignore it" these differences can grow to unmanageable proportions if these differences are located in our understandings of language and cognition and not aired.

Questions of Power

The educator Alison Lee (1992) notes that deconstructivist work in distance education is immediately, then at odds with the "too good to be true" narratives constructed by instructional design, a discourse that is inextricably entwined with the debate over the new technologies and their place in distance education in the future. From Foucault we learn that knowledge is best understood as forms of discourse and a system of interpretive analysis which privileges history and power in the production of the present. Narratives in distance education and instructional design can only be properly understood through a knowledge of their histories and the manifestations of institutional and governmental power that have shaped them. Feminist deconstruction is most commonly found in a variety of disciplines, from literary theory to cultural studies and from art to architecture. The feminist and post-colonial project is a familiar one within these fields of academic discourse. These projects are less familiar in education and its offshoot instructional design, however, which still maintains a rational and ideal structure of knowledge to be possible, truth to exist as a single unity, universals and founding principles to rest unchallenged and dominant notions of rationality to be the norm. That this results in a predominantly white, male, ruling-class world view being imposed on all comers is seen as a reflection of reality unmediated by language; "it's simply the way things are." The fact that in global terms it is evidently not the way things are at all is ignored or brushed aside as irrelevant or irrational.

Lee offers these reasons for valuing a deconstructivist approach in education research:

- Because it takes social complexity seriously and attempts to work with it rather than reduce and marginalise it; that is, it addresses practice;
- Because it refuses the opposition between the individual and the social and has ways of investigating the relation between them; and
- Because it theorises power and allows an explicitly politically informed research practice.
Patti Lather (1991) puts it like this:

I envisage an altogether different approach to doing empirical inquiry which advocates the creation of a more hesitant and partial scholarship capable of helping us to tell a better story [italics added] in a world marked by the elusiveness with which it greets our efforts to know it. (p. 15)

Such an approach was outlined by Lekkie Hopkins in her paper presented to the International Feminisms Conference, held in August 1994. The paper discusses the provision of global information technology linkages and the sale of Australian educational packages to Asia. Hopkins offers a plan of action that rests on a communicative, collegial and co-operative approach that is at odds with present bureaucratic structures and notions of hierarchies and “top down” instruction. Claire Matthewson’s (1992) research into Barriers to Educational Access focuses on gender discrepancy in educational opportunities and enrolment patterns in distance education and again lays considerable emphasis on the constructivist, linguistically informed approach necessary for successful research.

Conclusion

There is still a struggle being waged in Australia as to which direction distance education is to travel. Factors of distance, isolation and scarcity of resources have allowed an attitude of pioneer spirit and “going it alone” often in competition with other institutions to infuse our practice, sometimes at cost to ourselves. Failure to enter into the current theoretical debates and to inform our instructional design practice not only with the latest technology but also with current theoretical developments in epistemology and linguistics, in education and learning could cost us dearly as the new technology can do no more than the operators can make it, and the operators are ourselves.

References


Irigaray, L. (1985). This sex which is not one. Trans. by C. O. Porter with C. Burke Cornell University Press


Palmer, P. (1993). Instructional design and course teams: A twisted narrative. In T. Nunan (Ed.), Distance Education Futures, Selected papers from the 11th Biennial Forum of ASPESA.


• • •
World Wide Web Based Distance Learning

Joanne Ng and Andrew Marriott
Curtin University of Technology
Australia

The learning mode used in distance education programs has evolved together with the advancement in computer and communication technologies. While advances in technologies have brought about new avenues to pursue distance education, it has not made it conducive to a distance learner. A wide variety of medium is often used to deliver lectures and course notes, and information sources exist in a variety of formats.

Therefore, there is a need to integrate the various sources of information within a single channel such that a distance learner sitting in front of his computer can now gain access to the lecture notes as well as other electronic information available on the network. As the World Wide Web (WWW) is able to support more sources of networked information (whilst maintaining a uniform interface) than any other networked information retrieval tool, we felt that it is timely to exploit this new technology with applications to distance learning where cost has been an impeding factor on the choice of technology used.

In this paper, we offer a brief account of our experiences and impressions in attempting to set up a fully referred electronic journal system and a distance education WWW page for teaching.

Discussion

Research Support Environments

Typical past sources of information for a researcher have been journals and books, then databases, and more recently CD-ROMs. The network has made the databases and CD-ROMs very accessible. The last few years have seen the opening of many other non-traditional sources of information such as anonymous ftp sites and Wide Area Information Services (WAIS) sites. Through the use of such programs as Archie, Gopher and Veronica, these sources of information have become available to the researcher’s desktop. The World Wide Web is not just another program but a mechanism to access all these former (and future) sources of information with one interface (browser) on many platforms.

Mosaic is a WWW browser developed at the National Centre for Supercomputing Applications to provide a hypertext interface to the global Internet. It is a networked information discovery, retrieval and collaboration tool that understands about anonymous ftp sites, gopher sites and WAIS databases as well as news sites. Hypertext is text which contains highlighted links, called hyperlinks or anchors, to other text, documents or information resources somewhere on the Net—Mosaic can retrieve these via a button click.

The hypertext documents viewed with Mosaic are written in HTML (HyperText Markup Language), which is a subset of SGML (Standard Generalised Markup Language). Among the many formatting features, HTML allows Mosaic to display inlined images. (In fact, an inlined image can serve as a hyperlink just like a word or phrase can.). Mosaic also features unlimited multimedia capabilities. File types that Mosaic cannot handle internally, such as mpeg movies, sound files, Postscript documents, and JPEG images, are automatically sent to external viewers (or players).
Electronic Journal Project

New Challenges. Most journals today present text and images. The text is linear in nature (except for a footnote or a citation—primitive forms of hyperlinks) and the images are usually of poor quality compared to what the author wants to show to the reader. The delivery of the journal is very resource intensive and is limited in distribution. The articles are often very out of date (a turn around time of 18 months is common) and hence the articles are of historic use rather than showing what is happening now!

An electronic journal can show text in a non-linear fashion with links to other sources of information as well as present images at any desired quality (the author can provide any level of quality limited only by the time and space available to himself or herself). But also, the author can provide an audio narrative, provide the software that is being detailed, the algorithms that are being explained, and the data that is being used. This can foster research in a collaborative manner rather than contribute to the "re-invent the wheel" syndrome. The author can also provide PostScript hardcopy (or the original document in proprietary format) as well as movies of results if appropriate.

Conceptual Framework. Due to the Multimedia nature of an electronic journal, articles can be:

- Traditional Papers available in HTML, PostScript or original format, in English and also in the original language if appropriate.
- Technical Notes with any code described being available either through anonymous ftp or through a link in the title page.
- Seminar—text, hyper-links, sound, images and movies.
- Images—full colour, high resolution annotated with links.
- Software made available through hyperlinks or anonymous ftp.
- E-mail to Editor will encourage the discussion of issues, particularly those arising from articles published in the journal. The feedback to the author can be overnight and serious discussion can be introduced into the current issue about the article!

Since the article author can be contacted via e-mail and the distribution of the journal is world-wide, the article is reviewed or refereed by the entire world rather than just by an Editorial Board! Similarly, if the software is available, other researchers can test algorithms for validity. This raises the quality of the articles in the journal.

In a similar manner, the contact point for an author is now no longer just an address nor even an e-mail address. Most authors will have a WWW entry on their home machine which will let people get access to more information about that person—past publications, current projects, interests, and so on. It is assumed that the list of past publications may also be hyperlink documents which will let an interested reader browse and obtain other information of relevance.

Because the journal will be available at your workstation, it will be a part of your work. It will not be necessary to go to a library or have it circulated (and be weeks overdue)—it will be part of your information environment. This will lead to the journal being seen as an information source rather than as just late night catch-up reading! It will take its place alongside other information sources such as Archie, Veronica and, of course, a WWW browser such as Mosaic.

Learning via World Wide Web

Hypertext Learning. A Hypertext learning system has been argued to be both dynamic and interactive as compared to linear text, as it allows the user to explore the knowledge base in ways not previously determined by the system. Users create their own links between subjects and follow pathways of particular interest. Some see this new technology as the solution to the problem of the educational system whose main goals are the acquisition of a pluralistic, non-linear cognitive style, but whose main methods of communication are entirely linear (Beeman, Anderson, Bader, Larkin, McClard, McQuillan & Shields, 1987).

Unfortunately, the integration of multimedia instruction into the standard education curriculum has been slower than expected even though a growing number of studies show multimedia instruction to be superior to traditional instruction. The reasons often cited include high startup and development costs but most importantly, it depends on how the knowledge is being structured and presented to the learners. It can be ineffective if learners ramble through the knowledge base in an unmotivated way and use the system as an "electronic page turner" which requires no thought processing.

Those who are experienced with using a hypertext system for learning are well aware of some of its inherent problems, for example
getting lost or finding it difficult to gain an overview of materials presented. Before we can effectively use the web as a learning support tool, we need to address the following issues:

- How to avoid getting lost in hyperspace?
- How can we present texts with full hypermedia capabilities without overwhelming the readers with too much information?
- Do the course notes provide enough interaction to sustain the learner’s interest?
- Is the learning framework actually involving the learner with the course notes or is it just automatic page turning which requires no deep processing?
- Is the proposed mode of delivery cost effective?
- Is the information presented clear and sufficient?

Designing the Course Notes. The mapping of a linear text into a hypertext structure is not an easy task. First, we have to ensure that readers can form a mental image of the overall structure of the electronic course notes. This is important to facilitate traversal and reduces disorientation in the hyperspace. Second, information has to be presented in such a way that novices can pursue the details while the knowledgeable reader can easily move on to more advanced topics with minimal distraction.

In our model, there already exists a large amount of extremely useful text in linear form, hence it is more cost effective to convert it to hypertext than to rewrite the same information in hypertext language. The linear text is first segmented into nodes based on section numbering. Each node deals with a single topic or theme and contains an introductory note to convey the main concepts as well as pointers to the key concepts. Links are then created—we have only considered reference links (i.e., links to footnote or figures or source codes) and associative links (i.e., links between similar related concepts). A parser is used to identify the logical structure of the hypertext and hand crafting of links is performed at a later stage for more subtle relationships.

Our Experiences. “Electronic” hypertext course notes which contain pointers to other piece of information allow text to be presented in a non-linear manner. Through this system, the instructor can choose to provide narration to explain difficult concepts or highlight key issues. Alternatively, concepts can be illustrated using high quality graphics or animation. The system also provides the facility for learners to give feedback to the instructor via electronic mail and a reply can be received within minutes.

As there is a spectrum of interaction in the “electronic” course notes, learners are more likely to enjoy the following benefits of multimedia learning:

- enhanced information retention due to impact of high quality graphics, animation and sound;
- ability to tailor their own learning path;
- learning is now free from time and space constraints!

While research suggests that many short documents are preferred to a smaller number of large documents, our experiences show that too many smaller articles increase the amount of navigation the learner must perform and this can quickly lead to disorientation and distraction.

We also find that electronic course notes tend to be better designed than traditional courseware because more attention is given to the structuring and presentation of ideas and concepts in the new medium. The on-line feedback system from the students means that the course notes can be easily amended and new concepts can be introduced with ease.

WWW based learning can give learners more control over the amount of information to explore and to sequence their learning activities according to individual needs. The associations provided by links in the hypertext databases help students to structure knowledge and this should facilitate remembering, understanding and concept formation.

Conclusions

The benefits derived from computer-based instruction are well recorded, especially when it is presented in a hypertext and multimedia format. Most of the works done in this area had used proprietary systems to create the course notes and this poses serious portability problem.

In addition, these studies have also revealed that the significant barriers to the widespread use and adoption of network multimedia technologies are the increased cost associated with upgrading networks, buying media-equipped workstations, and the uncertainty over the benefits of multimedia learning.

As the web is accessible from any Internet site, portability of notes is no longer an issue. In addition, no additional cost need be incurred to
set up the network or buy new hardware to access the service. The only requirement is a browser to access the web and this is available in a number of anonymous ftp sites. These arguments also hold true for information offered via an electronic journal.

It is hoped that the ease of access and availability of the current resources will see more widespread use of this technology in learning and teaching.

References


World Wide Web Information

Please consult the World Wide Web Page:


for further information and references, a literature review and definitions of terms.

World Wide Web Software

The following WWW viewers are available—you may obtain them via anonymous ftp or use an archie server to find the closest and most up to date versions.

UNIX/X11 systems
- Xmosaic ftp.ncsa.uiuc.edu
- tkWWW export.lcs.mit.edu – includes WYSIWYG HTML editor
- Viola info.cern.ch

DOS Windows
- Cello fatty.law.cornell.edu
- WinMosaic ftp.ncsa.uiuc.edu.

Macintosh
- MacWWW (info.cern.ch)
The Challenges of Globalisation
Asian Business Culture and Practice: A Portrait of Diversity for CrossDisciplinaryTeaching

Chris Groom, Fran Siemensma and Peter Demediuk
Victoria University of Technology
Australia

For Australians the imperatives of focusing on Asia have been made clear by key figures in politics and the business sector. In 1993 the Prime Minister Mr Keating indicated that the key to future prosperity for Australia was in regional trade and unveiled plans for the gradual integration of Australia and other Asia-Pacific economies into what he called "the world's most dynamic zone of production." Mr Keating has said "I am utterly convinced that our prosperity, our national well-being, our ability to maintain and build a good society, depend on our courage in moving boldly to integrate our economy with the economies of South-East Asia" (Barker, 1993, p. 8).

Discussion
Given our location, natural resources, skill base and technology, it makes sense that Australia should better position itself to tap into a region that continues to display sustained economic growth whilst the rest of the world is facing substantial challenges. The importance of Asia and exporting are embodied in the oft voiced notion of "export or perish" (Bailey, 1993, p. 1).

Asia is not a new frontier for many organisations. Asian markets account for 60% of goods exports with eight of Australia's top twelve markets being in Asia, and 30% of our service exports via education, telecommunications, information technology, banking, engineering services and so on. (Gastin, 1993, p. 36). In contrast, less than a generation ago, exporting was viewed as an activity reserved for only the biggest Australian companies and the major markets were in Europe and America.

Today, niche and broader foreign markets are being explored and developed by companies of all sizes, and the expanding Asian markets are seen by many as the logical choice for opportunities in selling services and value-added goods. An indication of this phenomena is that eighty percent of enquiries to Austrade by Australian Business relates to Asia. However the failure of many Australian businesses to "complete adequate planning for export into the Asia Pacific Rim and China is evidenced by the number of Australian Businesses that have tried, but have thus far failed to establish export operations in the region—often endangering their domestic operations in the process" (Bailey, p. 1).

Many organisations, however, have rushed into Asian markets with a minimal understanding of Asian business culture and "Australian companies venturing into Asia still need to face a strong learning curve to succeed in business despite the rhetoric of Australia's expanding role in the region" (Corben, 1993, p. 17).

What experience is available in the Australian business community of Asian business culture and practice is often bound in generalities, or relates to more traditional markets such as Japan and Malaysia. The expansion into new Asian markets requires different perspectives on local business culture and practice as Asia is truly a portrait of diversity, and protocols, procedures and tactics suitable for Japanese business for example, may be inappropriate in Vietnam, Cambodia, Thailand or China.
Even closer to home for many of us involved in education, some pointed remarks have been made about the forays by some of our institutions into selling education to Asia. The Director-General of the Asia-Australia Institute, Professor Stephen FitzGerald (1993) claims that Australian universities have a reputation in Asia as “the carpetbaggers, the gold-diggers and the mercenaries of education” led by people with “no knowledge of our intellectual interest” in Asian societies (FitzGerald, 1993).

In the context of these strengthening ties with Asia and the challenges such relationships bring, there is an unprecedented opportunity for people across many disciplines in higher education to become actively involved in developing socio-cultural teaching and learning programs. Such programs may provide graduates from many disciplines (the arts, food technology, management, accounting, computing, education, etc.) with the knowledge and skills to facilitate their participation in enterprise in the global economy.

Unit Development

The initial development of the unit took place within the Accountancy and Law Department. The Department has developed a Master of Business (Accounting) with an international focus. The Masters program aims to provide accountants and managers with knowledge and skills to facilitate their participation in enterprise in the global economy. A key feature of the course is to integrate technical skills, cultural literacy and an understanding of international enterprise and global business strategies.

A multi-disciplinary team developed the curriculum. This team comprised staff from the Department of Accountancy and Law who were interested in culture and had experience in Asia, combined with staff from the Department of Asian and Language Studies with broader expertise in language and culture. The development of a management framework required the input of a Department of Management staff member with an interest in cross cultural communication. As a result the subject was also offered to that Department's Masters students. The subject was jointly coordinated by staff from both business departments.

The focus of the unit was on Asia but it was obviously impossible to deal with all the cultures that are encompassed in Asia in any meaningful way. However, it was considered necessary to study a number of countries to allow students to appreciate differences and similarities and to develop general principles that might be applied in preparing to do business with any cultural group. In selecting countries for study it was necessary to consider the university's resources and strengths as well as countries which were of strategic importance to Australia. It was decided to study Japan—Australia's major trading partner, China—Australia's likely future major trading partner and Vietnam—an emerging market where Australia has been in the forefront of development.

Aims

Aims of the course were to develop an understanding of:

- the styles of business communication practised in Japan, China, Vietnam and Australia;
- the cultural, political, social and economic contexts of Japan, China and Vietnam;
- the appropriate behaviour in social and business interactions with the target countries; and
- appropriate interpersonal skills in speech and etiquette.

Objectives

On completion of the subject, it was hoped that students would be able to:

- appreciate the importance of cultural norms and styles of behaviour;
- choose the most appropriate communication style for inter-cultural business interactions;
- go beyond cultural stereotypes in business and social interactions with people from Asian backgrounds;
- understand how to assist Australian business to interact more effectively in the region; and
- demonstrate an understanding of the similarities and differences between Australia, Japan, China and Vietnam.

Teaching and Learning Strategies

A multi-disciplinary team was assembled...
that could adequately cover the mix of cross cultural communication skills and country specific information that the curriculum encompassed. In order to heighten the impact of the country studies a saturation approach was used where students were given an intensive full day (Saturday) seminar on each country. The seminars were held at the university's city campus to enable a lunch in a restaurant of the country being studied to be incorporated into the day's activities. The venue, which is normally reserved for special functions, created a sense of occasion which was underlined by the charts, maps and cultural artefacts provided by each teaching team.

The teaching team for each country consisted of at least three people who were experts in language, socio, political and economic aspects, and business culture and negotiation. Australian expatriates who had worked or were doing business in the country provided case study-style insights. The joint subject coordinators from the Accounting and Management Departments provided the continuity by attending each of the sessions and contributing in their areas of interest and expertise. As country nationals conducted the major part of each seminar their teaching styles demonstrated the unique aspects each country in an immediate and observable way.

In addition to the country seminars two additional sessions were conducted. The first day long session was used to introduce the unit, emphasise the importance of Asia to Australian business, consider generally some of the issues in doing business in Asia and to increase awareness of culture and communication cross culturally. The fifth and final session provided the opportunity for students to reflect on differences and similarities between the countries studied. They were also asked to apply general principles in dealing with particular business problems and in communicating across cultures.

The student assessment tasks consisted of three country reports and a major management report in which students considered the comparative attributes of the three countries and prepared a detailed analysis of issues a company would need to consider prior to entering the chosen market.

**Student Profile**

Twenty-seven students elected to take the unit. Fourteen of the students were completing post graduate management programs and thirteen were from the post graduate accounting program. The university is in Melbourne's western region and the ethnic backgrounds of the students reflected the general multi-ethnic mix of the region. The student group also reflected differences in maturity, age, world experiences and contact through business with Asia. The students who had dealt with or visited the particular countries were able to participate positively and ensured lively discussion.

**Student Feedback**

The students generally responded very positively to the unit with 53% giving the unit the highest possible general rating and everyone rating the unit as at least somewhat rewarding.

When asked, at the completion of the unit, to comment on major issues in doing business cross culturally, comments included:

- It is important to become aware of the other nation’s culture when doing business cross culturally. Although you should be natural and exhibit your own culture, you should be sympathetic towards the other's culture.
- A major issue in doing business cross culturally is the understanding of values and cultural difference in business relationships. Without an understanding of a country prior to visiting, a lot of harm can be done accidentally to future relations.

Thirty-one per cent of students considered the unit should be an essential part of their particular post graduate study program and a further 38% considered the unit as at least highly desirable.

The innovative organisational and administrative arrangements were generally well supported with 67% preferring the all day Saturday seminars over the traditional one night per week for a semester. Most students, 68%, considered the lunches (which were paid for individually by students and staff) as a useful part of the day's activities. The off-campus location was favoured by 86% of students and 93% of students were more than satisfied with the administrative arrangements (which were complex given the number of presenters involved).

The main area of discontent expressed by students was the availability of resources, with 61% of students considering resource availability unsatisfactory. This, in part, reflects the lack of up to date authoritative materials readily available but may is also a reflection of the stage of development of the institution concerned and the willingness of students to use their initiative to seek out information from likely sources, which were mentioned by presenters, but require effort to access.
A second area of concern, mentioned by a number of students, was the superficiality that was inevitable from trying to deal with a country in only one seminar. It is impossible to deal adequately with all issues and perhaps a lesson learnt from the unit was the need for the presenters, who as experts felt the need to impart so much "essential information," to further prune their content. The best that can be hoped for is to achieve a level of understanding as expressed by this student:

I now have a basic understanding of the business and cultural aspects of these countries. Although the course, because of time, is unable to give me a full indication of what is required, it has given me an insight of some areas which I can look into more deeply at a later date.

Some students would have liked to see the course include more case studies. The course deliberately focused on principles of cross cultural communication that were relevant to business. By further refining the content to look primarily at the experiences of one or two firms in dealing with a particular country, the impression may be given that there is a "correct" way to do business with that country. This is certainly not the case and by developing principles for cross cultural communication, it is hoped that students can learn basic attitudes and sensitivities that can be adapted to a variety of business situations and countries.

All country studies incorporated a small component of language studies, which in the time available could give students no more than a brief introduction to the characteristics and complexities of each language. Future participants will be able to avail themselves of new technology to complete a more comprehensive self-study language component using the interactive book and touch screen systems now available.

The interactive book comprises an IBM compatible computer without a screen, and equipped with a barcode wand and sophisticated sound-card, microphone and speakers. Japanese materials have been converted into an interactive program where the computer records the participants voice, then makes a comparison with appropriate pronunciation. The barcode activates certain words, procedures and exercises in the hard-copy, and a random testing program is built in.

The touch-screen programs offer one-to-one training in Chinese and Japanese that enables students to accelerate learning at their own pace.

The touch-screen displays characters, gives correct pronunciation of words and phrases, and gives feedback on the context of their use.

A third more cost-effective system is the CDI (CD Interactive) system where a special CD player can be hooked up to a television and used in an interactive manner for language training. (Neil Shaw at Computer Aided Learning Centre can be contacted on 03-268 1090 regarding all of these systems).

Conclusion

This paper reports on an innovative unit in cross cultural communication. The unit was developed to introduce students to issues pertinent for business operating in Asia and to prepare students for their further studies.

The unit can be judged to be successful in terms of substantially meeting its objectives. The information conveyed by students in their written reports, combined with the level of animated discussion at the final seminar and supported by individual subjective appraisals, all indicate increased awareness in dealing with business people from various cultural backgrounds. The myth of Asian homogeneity was explored and the similarities between people were recognised. The following quote from one student expresses what the course set out to accomplish:

I found myself having a very biased attitude towards Asian people just because they were different. But now all I want to do is find out about them and their culture. It goes to show that just a little bit of education can change your whole attitude towards Asian people. They are just like us, but even more friendly and caring.

References


• • •
To See Ourselves As Others See Us

Bridget Swearse and Jane Raybould
Open Learning Institute of Hong Kong and Monash University
Hong Kong/Australia

This paper will address a collaborative project between the Hong Kong Polytechnic and the School of Health Sciences, Monash University, Australia.

Rarely a day passes when we are not confronted by the reality of our shrinking world. There would be few, if any of us who have not read of the Northern Ireland Peace Initiative, the Rwandan Conflict, and the latest Bosnian stalemate. We can barely conceive of a civilisation which is yet to be exposed to television, the aeroplane and other technological "advances."

We, in the "west," are constantly reminded that our civilisation is leading the way, breaking down technological barriers and "forging ahead." However, as we watch in horror as countless hectares of trees are cleared to make way for cattle which in tum become cheeseburgers, we realise that the west has much to learn.

It is time to pause and reflect, not only on our past but on our future; to stop being egocentric and to learn from others.

A common assumption is that inherent in the profession are universal commonalities that the norms and value should transcend geographical boundaries, that is to "nurse" is not unique to any one culture and, indeed, it is not.

In the given instance of Hong Kong and Australia, the Florence Nightingale tradition has been the adopted basis for nurse training in both countries. We all eagerly embrace the mantle of the "trained" hospital nurse to that of the tertiary educated nurse. It has been our privilege to share this change in focus with the nurses of Hong Kong. Initially, we believe it was seen and publicised as "us" taking our course to "them." However as the years have passed it has become apparent that the learning process is reciprocal, as we have learnt and are continually learning from our colleagues in Hong Kong.

It is a time to pause and reflect, to share with others how we have learnt (and are learning) to modify and adapt our Bachelor of Health Science (Nursing), to be seen to take into account the values of another culture.

Background

Nursing at Monash University, Gippsland began in 1986.

In August 1978, in a report of the Committee of Inquiry into Nurse Education and Training to the Tertiary Education Commission (The Sax Report), recommendations supported a move of nursing education from the hospital sector to the colleges of advanced education.

The committee concluded that the problems which were of greatest concern arose from the fact that service needs often subordinated those of education. These needs led to an inconsistency in levels of training for students and a variation in the quality and standards of learning (Sax, 1978, p. 114). Also of concern was that the funding systems which were then in place, would be jeopardised by too radical a move from hospital based training to a college-based education. However, the committee suggested (Sax, 1978) a change from the arrangements which were then in place:

143
... changes should be cautious, evaluated step by step, and taken forward only after validation justifies each change. (p. 115)

The other suggestions and recommendation covered expansion of college courses and the gradual reduction of hospital programs. The rationale for this slow change was so that the two courses could be both evaluated and compared.

At the time of the Sax Report (1978) the salary scales for nurses were such that it was believed that hospital budgets would not be adversely affected by replacing students with enrolled nurses and registered nurses.

The 1994 situation, however, is greatly changed and hospital budgets are unable to cover the cost of qualified nurses, be they registered or enrolled nurses, and as a consequence nurse patient ratios are at, or even below, their minimal levels.

Victorian nurses had already a college based course established at the College of Nursing. It had been experimental in nature and had followed the recommendations of some senior and motivated nurses who wished to see nurses educated at the same level as other members of the health care team, physiotherapists being the members with whom nurses were most frequently compared and contrasted (Slater, 1977, pp. 7-10).

Despite the opposition of some groups of professionals—and even within the nursing profession itself—the momentum of the plans for instituting college education for nurses was maintained. By 1987, many colleges throughout Australia had schools of nursing both within schools of science and in their own right (Russell, 1990, p. 118).

It was with this historical background and the impetus of the change towards college education for nurses that the School of Health Sciences was developed within the then Gippsland Institute of Advanced Education. The Gippsland region faces specific disadvantages in distance and isolation and the nurses who work in the region are also held hostage by their isolation from access to advanced education. It was with this fact in mind, that the development of a degree course for nurses by distance education mode was considered essential.

In 1986, the Victorian Post Secondary Education Commission recommended to the Federal Government that the Gippsland Institute be a centre for the state-wide provision of nurse education by external studies, particularly for registered nurses wishing to upgrade their qualifications from either a diploma (gained in College), or a certificate (gained in a hospital school of nursing).

When, in 1987, the Minister for Education, John Dawkins, published his discussion paper promoting growth in higher education “in a manner consistent with our economic, social and cultural needs” (Dawkins, 1987), there was a general expansion of Australian trade in South East Asia. Higher education institutions became aware of an expanding market for both attracting students to Australia and exporting education to South East Asia.

Monash University became interested in exporting some of its distance education courses offshore. In 1990 the Head of the School of Health Sciences completed negotiations with the Hong Kong Polytechnic through its business arm, the Centre for Professional and Continuing Education (PACE) and in November of that year, 170 students began their studies in the Bachelor of Applied Science (Nursing) by distance education mode.

The opportunity for nurses to convert their hospital-acquired certificates to a degree is limited in Hong Kong because only a very few places are available to them. The lack of places in Hong Kong was seen as an ideal opportunity to offer to nurses a course of the same standing as that offered to their Australian colleagues.

Nurses in Australia are offered the opportunity to study for a degree by distance education while being able to remain at work and avoid disrupting family life. According to Ngak and Lam (1993), nurses in Hong Kong also need to remain at work and therefore distance education has been able to meet their needs:

Hong Kong workers are motivated towards higher education because of the great value placed on educational qualifications, especially overseas ones. The desire to emigrate is also the likely background motivations of some students to study overseas programs ...

The recent recruitment exercises of overseas institutions in Hong Kong have also been attractive because some will offer distance education or offshore programs which do not require the Hong Kong students to leave Hong Kong and hence their jobs or families.

Mistakes And Misdemeanours

At this point we became hesitant and asked ourselves: is it better to bare all or to lie (and allow others to believe it has been all sweetness and light) and lose our integrity? We decided to bare all! This section is obviously written with the wisdom of hindsight and it is also written so that others may learn from our mistakes.

Course Structure

In the beginning, the course structure was
based on an assumption that the students in Hong Kong wished to complete their degree in the shortest possible time. The course was arranged to accommodate this, with two units per term and three terms per year.

In July 1992, when it became evident that many students were experiencing great difficulty with the heavy workload, it was decided to bring Hong Kong in line with the Australian University timetable, that is, two semesters per year (commencing February and July) and two units per semester.

Changes were also made to the number of units undertaken by students when at the direction of the Victorian Post Secondary Education Commission the course was reduced from 14 to 8 units. Thus a transition of 11 units was then considered sufficient for students to be eligible for the degree. Subsequent groups of students have been offered an 8-unit course comprising of seven nursing and one non-nursing unit. The non-nursing unit is a choice of three—Microbiology, Psychology of Health Care, or Sociology of Health Care—and students have to achieve a pass in all eight units to be eligible for the degree.

Prerequisites were not required and this allowed for flexible sequencing of units.

**Description of Units (1994)**

**Legal and Ethical Studies in Nursing**

To provide students with an understanding of the major legal parameters related to nursing practice and to provide a framework for exploring ethical issues in health care.

**Professional Issues I**

To introduce and encourage students to analyse critically and reflect upon selected contemporary issues and trends in nursing. The students will be provided with the opportunity to evaluate their own practice in context of the changes taking place in nursing.

**Professional Issues II**

To introduce the student to innovative and creative perspectives of nursing based on the rapidly developing knowledge of nursing theoretical concepts. It is acknowledged that pluralism in nursing theories is desirable, and that an explanation of existing theories is essential for enhancing the utility of theory and for continuing the development and progress of the discipline of nursing.

**Nursing Health Assessment**

To provide nurses with a comprehensive foundation for assessing clients' needs for nursing care. Nursing Health Assessment is viewed within the context of the nursing process and acknowledges the need for nurses to be systematic in obtaining client data in order to give competent care based upon the goal of health promotion.

**Nursing Research**

To demonstrate that nursing practice is shaped by research findings rather than by habit. Emphasis is placed on the belief that investigative skills of all nurses is an integral part of their professional repertoire. It is acknowledged that theoretical and clinical sensitivity starts with the ability to raise important and meaningful questions in the course of giving nursing care.

**Management of Nursing Care**

To provide students with an understanding of the management process as it applies to the delivery of direct nursing care to patients and clients in a variety of settings. The student will be encouraged to assess, plan and evaluate aspects of nursing administration in a small health care unit of agency.

**Clinical Teaching**

To explore, in depth, the educative process as an integral part of nursing professional development. Students will be encouraged to gain an understanding of the teaching-learning process in the context of their work situations in relation to clients and junior colleges.

**Content**

The content of the course was a source of considerable distress for the students. Because the course was "sold" as a package, nothing was changed. This foolish state of affairs saw students studying a unit of Politics and Health in the Australian context. The fact that so many of the students did the unit, and did quite well, was a credit to them and not to the unyielding attitude of the School of Health Sciences. Upon the appointment of an Associate Professor in Health Sciences this situation was changed, with future students having a choice of an elective unit from the three disciplines of Science, Psychology or Sociology. Even after this situation was satisfactorily negotiated, the content of the courses continued to reflect Australian and American values. Following a general discussion with those involved in the writing of materials it
was decided that the units would be written to reflect global nursing issues more effectively rather than Australian issues only. The Unit Guides were written with separate editions for Australian students and the Hong Kong students. It was hoped that this would better address the cultural diversity of not only our multicultural society in Australia, but also our students in Hong Kong.

Assessment

Assessment of the papers of the Hong Kong students was first to be done by the Hong Kong appointed lecturer and 10% of the marked papers were to be monitored in Australia. After a short time it was decided that all final papers were to be marked in Australia and only the first two assignments in Hong Kong. It was here that the problems of administration became most noticeable.

The reasons for the delays and problems were many. Because the program was set up so hurriedly, mechanisms were not in place to handle the assignment "traffic." Delays were caused by the fact that the lecturer in Hong Kong had given students extensions of time to complete assignments well beyond the dates set down for Monash colleagues. His reasons for this were poor access to the prescribed texts, caused by broken promises by publishers to have books in Hong Kong in time for the start of the course thus compromising the students' work; his own excessive workload which arose because he was trying to support all the courses and his own misunderstandings of the role he was supposed to fill; and a lack of understanding by the staff responsible for the course in Australia who should have kept closer control of the situation.

The promise of publishers to have texts in Hong Kong is, in fact, an ongoing problem. Often the texts arrive in Hong Kong bookshop as the unit is drawing to a close (the students have prepaid for their purchases so are obliged to buy). It is hoped that this will be resolved in 1995 with the introduction of direct purchase of texts from the Monash University Bookshop.

Assignments were marked in Australia by a number of markers, all of whom had to have completed a degree in either Nursing or a related field. The first markers were recruited from old Monash students or people known to have an interest in education. Many of the final papers were marked by the unit advisers. Here again, the lack of understanding by the servicing schools about their role (despite the large allocation of money paid to them from the student's fees) led to students not being given any feedback on their progress prior to the next term.

Once all these problems had been sorted out, many of the misunderstandings and issues were resolved. In Hong Kong new lecturers were appointed, a better system of assignment traffic control was put in place and the Centre appointed a staff member assigned only to look after the Monash programs.

Assessment Methods 1994

Assessment of student progress is the same as for Australian students. Papers are marked by the lecturers in Hong Kong. All final papers are marked in Australia. Ten percent of all marked papers are monitored by lecturers responsible for the subject, and all failed papers are also monitored. Assessment of work may be through the writing of academic papers or by examination.

Detailed marking criteria are supplied to lecturers and markers. Originally when there was only one lecturer in Hong Kong the "turnaround" time for papers was far too long. However now that there are more lecturers in Hong Kong the turnaround time aimed for is no more than four weeks. The Australian markers are required to adhere to this time so that students have papers returned promptly.

All marks are collated in Australia and a meeting of the Board of Examiners is held, where results are confirmed and passed to the Board of Studies for ratification. All monitoring is reported to the Head of School.

Papers from students whose performance is less than satisfactory or borderline are marked by another lecturer who has expertise in the area. In this case, students may be offered the opportunity to present a supplementary paper.

Student Support

Student support was provided in the beginning by the Hong Kong Polytechnic Department of Health Sciences. There the support of the Principal Lecturer was invaluable to the point where, because of the late appointment of the "official" lecturer, he took the first class himself.

When a lecturer was finally appointed he was expected to take on all of the units, tutoring, counselling and marking of all the papers. Understandably this was an unreasonable workload and not surprisingly trouble loomed on the horizon when the papers for monitoring by Monash staff did not arrive at the expected time.
Following some harrowing months when little more was done to address the continuing problems of lack of student support, it was finally decided that the money the course generated could be used for more staff to help the students. With this decision taken, Cynthia Wu was appointed, to be followed soon after by the appointment of Weety Luk. Consequently the student support improved, the students were better able to cope with a reduced workload and longer semesters and there was a more rapid return of papers before the next assignment was due.

**Student Support**

In 1994 the student support available in Hong Kong has improved:

- Administrative support is given to students by the Administrative staff in the Centre for Professional and Continuing Education.
- Academic support is provided by the lecturers in the Department of Health Sciences whose responsibility is the Monash course.
- Australian lecturers visit the Hong Kong Polytechnic at the beginning of each semester. The course co-ordinator counsels students who have problems with either the course in general or with their studies.
- Workshops, orientation programs and subject introduction sessions are offered by the Australian lecturers.
- Library support is provided by the Hong Kong Polytechnic where students have had borrowing rights since November 1991.
- Materials supplied for study are prepared by the School of Health Sciences, master copies being sent to Hong Kong where they are printed and distributed.

**The Situation in 1994**

So long as there is ongoing effective liaison/communication, the units and the program will constantly be revised, rewritten and represented; this is essential if we are to address the current trends in both Hong Kong and Australia. Some of the innovations for 1994 have been:

1. Monash is no long recruiting for the Bachelor of Nursing (formerly the Bachelor of Health Science (Nursing)) in February but in July, thus coming into line with the Hong Kong academic year.

2. In July 1994 Monash enrolled 12 students for the Master in Nursing program. This program is also available by distance education, facilitated and supported by Hong Kong Polytechnic. The initial enrolment was purposefully small so that effective teaching and infrastructure support could be placed in situ. Clearly, we have learnt from our mistakes with the Bachelor of Health Science (Nursing)).

3. A collaborative research project is currently being undertaken with a target population of students in both Hong Kong and Australia—"A comparative Study of the Study Skills and Coping Strategies of RN's Studying by Distance in Hong Kong and Australia." It is proposed in the very near future to instigate further collaborative research projects which will be of interest and benefit to both parties.

4. In July 1994 there were approximately 250 Hong Kong graduates awarded the Bachelor of Health Science (Nursing). This number is added to the previous graduation in 1992 of 112.

In conclusion, we would like to thank you for this opportunity to share our experience. We especially wish to acknowledge our colleagues in Hong Kong who have shown patience and fortitude whilst we grappled with a "foreign" culture.

**References**


☆☆☆
We Went to Teach, Now They Come to Study

Bob Finlay
Australian Catholic University
Australia

During the past five years since the proclamation and subsequent implementation of the Unified National System of Higher Education, Australian universities have experienced a confluence of forces heralding new models of universities for the 21st Century. These forces include significant changes in communication technology, quality assurance and entrepreneurial education of which the latter has increasingly become involved in international education networking in a changing world. This paper focuses on an entrepreneurial endeavour of a fledgling university which is currently endeavouring to meet the challenges of global educational networking as it attempts to come to terms with its own unification. Entrepreneurial education refers to initiatives undertaken by Higher Education administrators to engage in market-driven educational ventures for financial gain. These ventures create new challenges for academics and students alike.

Overseas study programs in Australia for students from "developing" countries date back to the Colombo Plan of the 1950s. More recently however, programs have attracted growing numbers of full fee-paying students from "developed" countries. In a past educational era students in small numbers were readily absorbed into existing courses in traditional universities. Currently, however, a new wave of students has entered an ever widening higher education net.

In 1993-94, the Australian Catholic University (ACU) offered seventeen fee-paying students from Ontario, Canada the opportunity to study for a Diploma in Education in either Primary or Secondary Education. Fierce competition to enter teacher education programs in Ontario, Canada has forced prospective students to explore programs in other Canadian provinces, the United States and more recently Australia (Daly, 1993). Ironically, almost thirty years ago during a teacher shortage, Canadian educational authorities wooed numerous Australian teachers to teach in Canada. Many found the experience to be a turning point for an increased awareness and commitment to international educational networking. Interestingly, a similar opportunity has currently appeared for global networking. However, whereas we went to teach, now they come to study. This paper examines the experiences of a cohort of fee-paying students from Ontario, Canada enrolled in a Diploma in Education (Primary) at the Australian Catholic University.

Background
Advertisements to study teacher education in Australia were placed in the local Canadian press by education consultants who had established contact with the New South Wales division of the ACU. The advertisement attracted widespread interest amongst the numerous university graduates and others already employed who, each year, scramble to get into Ontario teachers' colleges. Seventeen offers were accepted, the majority of whom had graduated with at least a B grade average (an Australian Credit grade), and many had considerable work experience with children and adolescents. The "Canadians," as they were later referred to around campus, arrived almost without notice to the University community a week prior to the commencement of the second semester in 1993.
The seventeen students—eleven females and six males—had graduated from five universities and had majored in eight different disciplines. The thirteen students who enrolled in the Diploma in Education (Primary) are the focus of this paper. Student ages ranged from early to mid twenties and most had never met each other before. As this was the first cohort of students for ACU from another English speaking country, a systematic process of analysis and evaluation of student experiences was undertaken.

Method

The group of students met with the author on two occasions to engage in a review of their experiences using a nominal group technique (Delbecq, Van de Ven & Gustafson, 1975; Lonsdale, 1975). This decision-making strategy involved the exposure of individual and group perceptions. The procedure involved the generation and recording of student thoughts, feelings and ideas, their discussion for clarity and the taking of a vote to establish a priority rating. The sessions were carried out in the final two weeks of a year-long program in a convivial and non-threatening manner. The Nominal Group Technique was chosen as people find the procedure interesting because each step in the process is different. Each group member joins in at all stages and no individual can dominate the work of others in the group. As a strategy the questions were posed to gain the students' perceptions of their experience:

1. What expectations did you have when planning to undertake your studies?

2. What do you consider to have been the benefits of undertaking studies in an Australian university?

3. What have been your concerns during your studies?

4. What recommendations would you make to the University for the continuation of such a program?

5. What significance and/or future potential does an overseas study program hold for international networking relations in education and training?

In order to gain additional information about student experiences related to their program, other questions were posed to the group and their responses were video recorded.

Findings And Discussion

The following responses were prioritised according to their relative importance on a weight and frequency of response index.

The expectations of the Canadian students were that:
- courses would be established;
- the university would provide adequate accommodation preferably with Australian students;
- university administrators would be aware of Canadian professional requirements;
- a university coordinator acting as a "resource" person would be appointed;
- the university and Canadian Educational Consultants would have a close working relationship;
- adequate and worthwhile unit choice and description would be provided;
- hands-on practical experience would take precedence over theory;
- there would be the opportunity for extensive integration possibilities with Australian students;
- all student concessions would be available;
- a wide range of facilities including provision for academic, sporting and social life would be accessible.

It may be reasonable to assume that the expectations the students held of their forthcoming experience in Australia would be coloured by their own undergraduate experience in Canada. Likewise for the ACU it was difficult to anticipate expectations overseas students might have, especially when the host institution was offering a course for the first time. When both parties are separated by an overseas agent, confusion and insecurities may develop.

Many of the expectations held by the Canadian students were not fully met. Students had expected to be better received and accommodated, and more fully integrated with Australian students. There was little lead-up time prior to the acceptance and arrival of the Canadian students. They arrived during the school practicum period when most education staff were operating mainly at schools.

Attempts were made to integrate overseas students with local students but at times this was not always possible because of the nature of the program. The author created cooperative learning groups involving local and overseas
students resulting in significant learning experiences for all concerned.

If the ACU were to be considering future programs, the administrators would need to be aware of the above student expectations. Universities must, however, consider the potential duality of interests they represent in becoming education providers. In terms of equity, universities would not want to be seen to be putting the interests of one group of students, who happen to be overseas fee paying students, before those of local students paying the Higher Education Contribution.

Perceived benefits of undertaking studies have been:

- graduating with a qualification accepted by the Ontario Ministry of Education;
- learning about different educational systems;
- individual help received from specific academic and general staff;
- teaching experience gained on practicum in schools;
- the Primary Mathematics and Language components of studies undertaken;
- developing independence, survival skills and becoming self-sufficient;
- living in a different country for a year;
- exposure to a Catholic system of education;
- establishment of Australian contacts and friendships;
- the broadening of multicultural awareness;
- small class sizes; and
- social aspects associated with meeting Australians and fellow Canadians.

Since most students had tried unsuccessfully to gain entry to Ontario teacher education faculties there is obviously a need to ensure an Australian qualification continues to be recognised by the Canadian educational authorities. The fact that someone as eminent as Michael Fullan (1994), Dean of Toronto’s Faculty of Education, where 4,600 applicants were turned away in 1993, is calling for a full review of teacher education, should act as a cautionary note. If Fullan’s faculty proposal, requiring people trained outside the province to take additional courses to qualify to teach in Canada, is adopted, ACU’s education entrepreneurial activities would need to be reviewed before further educational investment in such programs. At the moment, however, instead of paying tuition fees of about $2,300 (Canadian) a year students are prepared to pay between $13,000 to $18,000 (Canadian) for a twelve-month teacher education program in the United States or alternatively fly to Australian and pay A$10,000 and in a year graduate with a dual qualification that is valid in Canada or Australia.

Other benefits acknowledged highlighted both professional and personal gains as well as featuring some broader educational networking opportunities. Professionally, students gained a teaching qualification while learning about different educational systems from first-hand experience. They gained valuable practicum experience in a Catholic system of education which was thought would improve their employment prospects in Catholic schools in Canada. On the personal level, students became more independent, learned to survive and became self-sufficient while broadening their multicultural awareness and enjoying the social aspects associated with meeting Australian and fellow Canadians in a new country. Furthermore, students voiced similar sentiments to the findings of Tucker and Cistone (1991), when claiming that their international experience had given them a better understanding of themselves and of their relationship to the wider world community. This global perspective for teachers is seen to be an urgent priority for teachers of the 21st Century.

The following examples of international educational networking at work since the beginning of the program, illustrate some related outcomes. Several students were visited by their relations, partners and friends during their period of stay. One student remained in Australia to take up a local teaching position while another plans to return in the new year to teach in Sydney. Upon return to Canada two of the graduating students have become educational agents and are currently recruiting future students for Australian-overseas programs. Recently one member of the ACU staff has visited returning students in Toronto and another plans to use the contacts made to facilitate an educational exchange program. Within the period of a year the above networks have been set up thereby demonstrating in a small, yet significant, way how international networks can occur through overseas study programs.

Concerns

Perceived concerns associated with overseas study related to assessment, integration, university facilities, certification, “group” treatment, and international communication.

The level of concern varied considerably in
degree and ranged over the student body but there was some general dissatisfaction. Clearly university life in Canada is quite different from that of the ACU in terms of assessment, administration, facilities, curriculum and student welfare. Particular student concerns regarding their integration with Australian students, and the issuing of certificates on course completion are important matters which still need to be addressed. The best advocates for the success and continuation of any program are its satisfied graduates. Australian systems, however, cannot always be modified to meet overseas student needs. Any future programs would need to consider such issues as matters of prime importance.

Recommendations

The recommendations students made to the university were:
• more experiential workshops and activities;
• ensuring students on departure from Australia have evidence of a qualification;
• the establishment of direct communication and negotiation between university and overseas students;
• establish effective liaison among students, lecturers and administration;
• provision for direct contact between the university and the Ontario Ministry of Education;
• the creation of a brochure about the university with explicit information related to course and unit descriptions;
• provision of student concession cards;
• opportunity for integration with Australian students studying at the same level;
• the establishment of a system of converting marks to Canadian university equivalents printed on transcripts of results;
• special consideration be given to staffing of units;
• a review of assessment procedures; and
• conduct student evaluations of the program in each semester.

In summary, all students recommended that the course be more practical in nature. Also, having invested so heavily in the overseas study program, students wanted tangible evidence of having qualified and graduated before returning to Canada to apply for teaching positions. Apart from the issue relating to the students' eligibility for student concession cards, all other recommendations appear to relate to the necessity for improved communication links involving all parties concerned.

Significance of the Program

Perceived significance of the overseas study program for international networking relations in education and training included:
• gaining a new perspective for looking at the Canadian education system;
• creating the opportunity to experience a new culture and lifestyle;
• facilitating possible employment opportunities in Australia;
• providing mutual benefits for Australian and Canadian students;
• encouraging future teacher exchange programs;
• returning to Canada with new strategies and initiatives;
• establishing possible contacts for both future social and educational purposes;
• marketing opportunities for overseas study programs; and
• possibly hiring one of the program's graduating Canadian students to promote networking between Canada and Australia.

The overseas study program gave students the opportunity to become educational pioneers. They set out on a voyage of discovery to gain a marketable qualification and in the process received some additional and unexpected bonuses which transformed the experience beyond initial expectations. In doing so, students have established international educational networks through their formal studies. Informal experiences on the other hand, created unique opportunities to become aware of, and participate in, a new culture and lifestyle which had profound implications for their teaching careers upon return to Canada. Cross-cultural experience has contributed to the development of a global perspective in students. Many students expect to return to Australia but next time, not as pioneers but advocates for international educational networking.

More information about the students' experiences came from responses to the following four structured questions which were video recorded.
What were the driving factors in your coming to Australia?

Peter who had unsuccessfully applied for three consecutive years to a variety of Ontario education faculties with a B grade average (75%) was surprised to find that "To study in Australia I was accepted on the basis of a phone call."

Trish was accepted to study in Ontario but the idea of study in Australia appealed to her. For her the opportunity to study and travel was an attractive option. In her words, "I decided pretty much on the spur of the moment to come to Australia."

Terry and Catherine saw the advertisement, became involved and were accepted.

Tracey felt, "It was one thing I wanted to do and once the decision was made there was no turning back."

For Kristy Australian and American options had to be compared. She reasoned, "For the same amount of money I thought I might as well experience a different culture and country."

When asked to cost the experience, students had the following to say.

Cameron was initially frightened to total the costs but reported, "It was probably about A$20,000 but I looked at it as a form of investment for the future, since I could qualify this way and get on with teaching rather than waiting around for the Canadian university entrance lottery."

Trish reasoned, "It’s better to spend the money now and have a qualification. Anyway, Australia is a lot more exciting than the States."

Colin expressed his reaction to the cost in this way: "It’s affordable now but may not be in three years."

What expected role and function could universities be expected to adopt to establish global educational networks?

The following comments were made by different students in the light of their experience:

Administrators should do some market research and be able to empathise with overseas students living in a totally different country.

While there appears to be a good program for non-English speaking background overseas students just because we know English, it doesn’t mean we know Australia.

There is an overwhelming need to be organised and have things in place when students come.

Know the qualification requirements needed for acceptance back home in Canada and set the program up around that.

Identify the enormous opportunity for big business.

Kristy indicated that "a number of people may be referred by us."

Ellie mentioned that her parents in Canada had been contacted by a student in Kuwait who had heard of the overseas study program from Ellie’s relations living there. In the latter instance, international educational networking had links on three continents.

Considerable evidence exists to suggest that the future role and function of universities in the 21st Century may have to be re-defined in terms of the market economy.

What significant personal and professional gains arose from the experience?

Most students spoke of being able to take complete responsibility for arranging an overseas study program as a significant personal gain. Students learned the skills necessary to survive while being able to empathise with other overseas students. Above all, students identified self-confidence as a major significant gain during their experience.

To what extent has the experience been a turning point for increased awareness of and commitment to international networking?

Students mentioned the following:

We have all met at least one person who will remain a contact probably for the rest of our lives. We know we are at least qualified to teach in Australia which is another option for networking. We have shared an experience with other Canadians who could become resource persons in the future back home, which stems from our association in Australia.

We have not only had the benefit of our own education in Canada but a bonus of a Diploma in Education from Australia which means new ideas and alternative methods will accompany us on our way home.

The sheer weight of all the new syllabuses and documentation may weigh us down but will be potentially useful back in Canada.

It is so easy to adapt here. It’s home to us now.

Studying abroad is better than travelling from place to place since you become a part of the culture, not just experience things on the surface.
I felt as though I was an Aussie when celebrating the announcement that Sydney, my adopted city, would host the Olympic Games in the year 2000.

The above findings speak for themselves regarding the potential for international networking. The challenge for the host institution is to build a solid foundation upon which the experiences can grow and develop for both the staff and students in the program. Universities in the future need to continue to establish networks through graduating students. I went to teach, now they come to study and together we can build future international educational networks.

Although a variety of experience descriptors, terms and variables have been identified in this study there is clear evidence to support Wilson's (1993, p. 21) findings, namely:

1. An internationally experienced person can gain a global perspective, including substantive knowledge and perceptual understanding; and

2. International experiences often lead to personal growth and new interpersonal relationships.

Reflection

Reflection on the experience of conducting this analysis and evaluation of an overseas study program for Canadian students arouses mixed thoughts and feelings. On the one hand, I feel some sense of responsibility for the concerns expressed by students throughout this inquiry. On the other hand, I feel privileged to have been in a position to facilitate and share the many joys associated with this program. I have appeased my inquisitiveness, exposed student sentiments, highlighted areas of needed reform, established the existence of international educational networks and remain challenged to seek further opportunities for overseas study programs in teacher education.

The need for developments when responding to such challenges relate back to that confluence of forces heralding new models of universities for the 21st Century. We need to harness new communication technology to keep the information and communication links open. Furthermore, we need to ensure effectiveness and efficiency through deliberately implemented methods of quality assurance along the way. Finally, we have to consider the various strengths and weaknesses of our existing programs before becoming involved in entrepreneurial educational networking.

References


What are the implications of working at a culturally diverse campus in a multicultural society within a framework of increasing internationalisation? Any university claiming to serve an international and culturally diverse clientele has to consider the implications of that question for institutional constructs/coordination/policy, professional development for academic and general staff, curriculum and pedagogy (methodologies & attitudes) and resources and materials. In turn, these broad areas subsume issues including:

- Official culture (including signs and symbols of power/authority),
- Staffing,
- Course content,
- Teaching Methodologies,
- Support systems,
- Professional development,
- Induction Programs,
- Promotion assessment, and
- Support Services.

Discussion

It is clear that we need to work on managing change—individual, departmental and institutional—on a systematic rather than the current ad hoc basis. This old pre “quality” sink or swim approach to education appears in the widespread ignoring of or resistance to the need to adapt campuses, courses and teaching methodologies to actively include the presence of indigenous people, students from non-English speaking backgrounds, international students, women, mature age students or students with disabilities—that “real world” that our particular university seeks to serve.

Rather than attempting to address all of the above issues, we will concentrate today, within an Australian university context, on three main aims. These include raising awareness of significant areas of change and modelling one action step in a process to change attitudes. We include practising a networking process as an integral part of our workshop because international networking is part of the “new, global cultural economy ... a complex, overlapping, disjunctive order” (Appadurai, 1990, p. 296). Most of us are from multicultural communities, all of us are dealing with rapid change. We can learn from each other how to deal creatively and constructively with these complexities.

Areas of Change: (Traveller, there is no path, paths are made by walking)

Very little has been done in any coherent way to identify and practise culturally responsive teaching. Action in this area is mostly taken in response to a “problem,” once it arises, rather than as part of an institutional strategy to ensure quality in this area. All lecturers, of whatever cultural or educational backgrounds, should have access to cross-cultural awareness training, rather than waiting for individuals to discover the need for themselves. Professor Ian Reid has identified one extremely important aspect of effective teaching and learning, that of literacy and its cross cultural implications. He quoted estimates from Kalantzis and Trent that between
18 to 25% of students, varying across states, are from non-English speaking backgrounds. One-third of these are from Asian countries. Yet these students are usually perceived from a deficit perspective. Lecturers recognise the problems they pose an inflexible and unresponsive system, rather than analysing how we can build their skills and knowledge and build on their skills and knowledge. There is still a view that international students are coming here to get an "Australian" degree and should take what they get. This attitude is not appropriate either in terms of effective pedagogy or in the context of full fee paying students who need a globally relevant education.

Reid (1994) suggests that "when we have accepted the necessity of a cross-cultural perspective, have understood how reading is culturally framed, have learned to analyse the use of written genres embedded in literacy events, and have mapped the differences between native speaker and non-native speaker groups of learners ... better curricula, study materials and learning strategies will follow" (Reid, p. 8).

**Institutional**

There are groups and individuals in every institution with an interest in, experience in and knowledge about particular areas. As part of a coherent action plan, each institution needs to establish what is happening already, what issues have arisen, how staff have responded and what "best practice" is. This pool of informed responses would include:

- suggestions for change;
- models of best practice;
- identifying issues which may arise;
- avoiding pitfalls;
- a responsive appeal system in case of problems; and
- identifying, accessing or producing relevant resources.

It would form a knowledge base for setting up a continuing professional development strategy, as part of an institution-wide plan for cultural diversity and how it intersects with "quality." General staff also need access to any change process. They are often the first people with whom students interact.

The success of any program for change depends on active support at the highest level. In terms of the official culture, the hidden curriculum or institutional voice, Chancellors, Vice-Chancellors and heads of department play crucial roles in modelling appropriate behaviours in this area and in incorporating diversity into the signs and symbols of power/authority.

Tokenism is not an answer and visibility is essential. The once a year multicultural day/week during which we are all "allowed" to take up space in our diversity is a minimal response. We live diversity in all its challenges and benefits, every day and in every context of our working lives. A culturally responsive development program could, for example, be made an integral part of the process before approval was given for any faculty to accept overseas postgraduate students. There are also important cross-cultural implications in the induction of staff and students. In the Australian context, it is very important to introduce all staff and students to the history of Aboriginal/non-Aboriginal relations. There is a further aspect involved in this area in the case of overseas students, many of whom arrive with preconceptions based on what returning students have said. It is important to discuss these issues before they too adopt the prejudiced and often ignorant views of other students.

Language and learning units and Aboriginal and Torres Strait Islander units, as well as health and counselling, are performing a lot of counselling work. This work is essential to the survival, let alone success of their students. This is so because other lecturers are often unaware of the students' difficulties with the system or are too hard pressed to respond personally. Effective human relationships and an encouraging atmosphere are crucial for these students' success. Many similar issues exist for overseas students and other students from non-English speaking backgrounds. What research exists into who drops out and why? What kinds of questions are being asked to determine this? Who asks the questions? How are they framed? How is research information integrated into action for change?

**Departmental Change: Modelling an Action Step in the Change Process**

We acknowledge that attitude change is crucial but how do we bring it about? This section gives a history and description of one model. I was asked by the Computer Based Education (CBE) section at the Queensland University of Technology to organise a 90 minute workshop because the director realised that staff
needed to know more about cultural diversity in order to work effectively. For me, an essential planning step in this process was to send out and analyse the responses to a pre-workshop questionnaire, which was anonymous and voluntary. Because the group were all course writers and designers, I began with a two minute clip from an old Australian film *A Nation is Built* (1938), to give them an example of how cultures are constructed and constantly changing. I moved on to a short group forming exercise in which they shared one interesting or unusual aspect about themselves and one concern they had about the issue of cultural diversity and their work. This set the scene for cooperative work.

The first activity was one I had not tried before. This was a "negative brainstorm," in which they were asked to take ten minutes to work out strategies to ensure that the materials and videos they helped to produce would disadvantage the target equity groups—Aboriginal and Torres Strait Islanders, women, mature age students, students from low socio-economic backgrounds, and students with disabilities. We put their answers on the whiteboard and what emerged clearly was how similar the disadvantaging strategies were for each target group and how many of these strategies were already being used, albeit unwittingly.

If we had more time we could have reversed their strategies into positive alternatives. However, the point had been made and as part of a mini-lecture (10 minutes) I made some assertions:

- We own the problem;
- We need to understand diversity;
- We need to analyse its implications for us in our work; and
- We need to respond appropriately, personally and on an institutional basis.

and then asked some questions:
- What can I do to respond appropriately in my work?
- What can the organisation do to respond appropriately?
- How do we find out what "best practice" means for us?
- How do we avoid reinventing the wheel?

I then handed out the three focusing open-ended statements and a question for workshop discussion in small groups. Each group chose a spokesperson/scribe. There was a written introduction to this section of the workshop, explaining that I would collect their notes and collate them and that they were intended to form the basis for guidelines for that group. They could re-examine them and change them, but they would provide a starting point and a record of their thinking as well as a useful induction tool for new course developers and graphic designers. Open-ended focusing statements were set out as follows on a page given to each group, with space for their written comments. As collated these were:

**The Issues**

1. **Important issues include:**
   - taking into account the whole range of student backgrounds and cultures;
   - not to offend any culture;
   - not to disadvantage any group;
   - not to direct our courses to perceived "normal" i.e., white, anglo-saxon, Protestant (WASP), male, middle class;
   - to create non-sexist, non-racist materials;
   - to avoid a dominant perspective;
   - being aware of differences;
   - CBE materials addressing cultural/religious/gender/socio-economic diversity at QUT; and
   - staff awareness.

2. **In the past we have:**
   - used male, white characters predominantly;
   - not questioned materials from lecturers;
   - not set equity issues as important priorities/criteria;
   - not supported attempts to consider equity issues;
   - not seen the "real world" as being increasingly diverse;
   - not specified research/awareness time as part of a project;
   - not taken responsibility to educate subject matter experts;
   - ignored these areas — on an overt basis, except for gender issues;
   - introduced Anglo-Celts as dominant role models;
   - been ignorant; and
   - let the client determine the content.
3. In future, the following strategies may be helpful (divided into general and specific categories):

**General:**
- take responsibility for checking issues within the content that relate to cultural diversities;
- become aware of various cultural groups and their needs;
- increase awareness of various cultural groups and their needs; and
- increase awareness of the impact of the above on individuals.

**Specific:**
- **Issue:** inequitable course content.
  **Strategy:** take responsibility, take time to question and educate subject matter experts and be firm.
- **Issue:** cultural diversity as integral part of content.
  **Strategy:** set equity issues as essential criteria and allow (research) time.
- **Issue:** subject matter experts do not recognise need.
  **Strategy:** educate.
- **Issue:** cultural concerns.
  **Strategy:** Team members to support each other.
- **Issue:** cultural diversity/awareness.
  **Strategy:** staff awareness/education - consultation.
- **Issue:** religious/socio-economic awareness.
  **Strategy:** staff awareness/education - consultation.
- **Issue:** all.
  **Strategy:** use sample student reference group to test/evaluate materials.
- There was a final focusing question:

4. Where do we go from here?
- After discussion, the groups suggested the following specific recommendations for ongoing change in their department:
  - continuing education for us;
  - set equity issues as integral part of “quality” project procedures;
  - have concrete policy on equity issues in “Quality” manual;
  - be vigilant with subject matter experts;
- create glossaries to meet ESL student needs;
- provide reading materials — resources;
- have a visiting expert;
- meetings within CBE to discuss issues;
- staff updates from relevant sources;
- orientation of staff to specific issues in CBE;
- procedures for ensuring that materials conform to quality standards set for gender/cultural equity with regard to structure, interface, guidelines and content;
- procedures for reference group evaluations to be set up; and
- formal training of staff in CBE material evaluation.

**Summary**

On reflection, what is interesting about this model is its potential to facilitate a “perspective transformation,” that is, “... a process of questioning basic psychocultural assumptions and habitual expectations by examining how and why they constrain the way we see ourselves and others” (Taylor 1994, p. 158). It also fits with Ortrun Zuber-Skerritt’s (1994) “action learning” model since it “maximises participation, collaboration, creativity, innovation and critical reflection” (Zuber-Skerritt, p. 373). We had a short workshop time, which is a common constraint, but it is clear that this process enabled the group to explore a potentially threatening area of change in a constructive and positive way. They formulated guidelines for future action which they themselves had generated and which therefore have meaning for them.

Ultimately, however good a plan may be, individuals have to change and have to support change. The CBE group is now not only aware of the issues—staff are now motivated to move into a continuous program of change with confidence in their ability to manage the change process themselves. These observations and the workshop I devised were appropriate in an Australian context. I would be interested to know if the process was useful for or adaptable to any other cultural contexts.

**Conclusion: “Where Might We Go From Here?”**

I suggest we begin with the third, most open and active of Alice Jardine’s (1985) three possible responses to a postmodern world from which
power serving absolutes have disappeared, or at least are in disarray, that is "a continued attention, historical, ideological, affective to the place from which we speak" (Jardine, p. 32). We need to dare to analyse our "place," to see how it moulds our choice of content, our methodologies, our own language, what it says about us and what we say through it—the not so hidden (racist? sexist? classist? etc) curriculum. All discourses hold the potential of being oppressive to others and need to be considered and confronted in this knowledge. "Every one is someone else's other" (Gentile in Ellsworth, 1989, p. 322). For example, we "have to restructure our perceptual guidelines if we, as Australians, wish to understand and interact with Asia" (De Souza 1994, p. 8). We should avoid unhelpful generalisations in which "Asia" seems to have replaced "New Australia" as the imaginary, homogeneous nation somewhere "over there" from which all "Asians" spring and within which simplistic and erroneous context they can be "understood." Linda Jaivin used humour to discredit the overused term "Asia-literate," suggesting that any time we hear it, "we should all put our hands to our mouths and snigger impolitely". Her reasoning is that "to call for "Asia-literacy" is in a sense an admission of Asian illiteracy" (Jaivin, p. 45), in that one reveals lack of awareness of the complexity and diversity of cultures in the region as well as of the stresses and tensions within each country, whether based in religion, class, wealth or ethnicity or any combination thereof. There is no single "answer" but Brenda Dervin's (1993) suggestion of turning our nouns into verbs (Dervin, p. 54) would open up debate by providing us with more flexible answerings, ways of addressing these issues suited to each institution.

Fundamental changes at an attitudinal level would lead to an informed and flexible approach to culturally responsive teaching and learning which could make Australian tertiary institutions educational leaders in the Asia-Pacific region because we offer the most appropriate educational opportunities, not just the nearest or the cheapest.

References


Acknowledgment

I am grateful to my colleague Tania Aspland, whose comments and suggestions have been incorporated into the paper/workshop.

◆◆◆
One of the most durable of Australian national myths has been that the voyage of Captain Cook, in his ship The Endeavour, led to the discovery of Australia.

**Discussion**

For many generations of Australians, the myth also implied that, with that British ship and others that followed, came the bulk of cultural apparatus and social values and systems needed to create a new society here in Australia.

Generations were able to hold untroubled to those beliefs—reinforced as they were by our education systems. From schools to the highest levels of academe, the models and mentors that were sought were essentially British or American or, for the more radical, Western European. Migrant flows to Australia began to challenge this cultural model but the framework remained essentially transatlantic.

Dynamic change in our region, changes in national vision and the flow to Australia of large numbers of overseas students overwhelmingly from Asia, have all made an impact on how we see ourselves and what we now expect from our education and training institutions.

In this paper I will briefly track recent developments in key elements of national policies which are aimed at encouraging education and training institutions to take a leading role in Australia's engagement with the region. I will then examine how this is being facilitated by networking at the government-to-government level.

**Australia's Education Links with the Region**

It is now axiomatic that closer links with Asia are crucial to Australia's future. Education is at the very heart of our relationship with the region. At the level of the individual, it is primarily through education links that many Australians first formed personal ties with our regional neighbours.

Through a very rapid growth in education links, these ties have broadened, diversified and deepened, enriching the quality of our relationship with Asia.

For the sake of brevity and at the risk of oversimplification, our educational ties with Asia can be characterised by three phases. We are moving from what some have called a donor phase, rapidly through a mercantile phase to a more interactive phase, or respectively, "aid, trade and internationalisation." In moving to each new phase, we have not abandoned the core objectives of the previous one. Rather, we have aimed at becoming more sophisticated and sensitive in the means of realising them.

Before 1986, most international students in Australia were directly supported by Australia's aid program. 20,000 international students in 1986 were sponsored by aid programs or otherwise subsidised by the Australian government. Only 2,000 international students paid the full cost of their education in Australia.

Initially, this aid reflected the economic gap separating Australia and our main student source countries: Malaysia, Singapore and Hong Kong. This aid was primarily provided through schemes such as the Colombo Plan, established...
by Commonwealth developed countries to promote educational assistance to Commonwealth developing countries.

The early educational links, therefore, reflected the pattern of our broader historical and strategic relationship with countries in Asia. In the education relationship, however, Australians became engaged, not just with commodities or policies or images, but directly with real people.

These students added a new international dimension to our campuses, enriching our research and challenging our basic concepts of knowledge. Most returned home having formed lifelong links, and taking with them something of our views and approach to life.

Last year, H.E. Sulaiman Daud, Malaysia's Minister of Education, referred to the long-standing and deep educational ties between Malaysia and Australia. He said:

Over the years many Malaysians went to Australia on scholarships or as private students, with the cumulative total now, remarkably, well in excess of 100,000 Malaysians who have studied in Australia.

He went on to commend the fruits of these ties as more than a one-way flow of students to Australia.

They are ties that endure beyond the vicissitudes of the ebb and flow of diplomatic relations and can act as the balm that speeds recovery.

He also noted that the recent rapid growth reflected the second stage of educational ties—the “trade” stage, or heroic phase, when universities and other education providers commenced actively pursuing full fee-paying students. The growing regional demand for education opportunities, the solid reputation of Australian education and the popularity of Australia as a lifestyle destination for international students led many institutions in Australia to “seize” this market opportunity.

In moving into this “trade” phase, our educational aid programs were not diminished. Indeed, educational assistance still remains at the core of Australia's co-operation with developing countries and these programs have become more carefully targeted to the most disadvantaged areas and individuals.

The progress of our education interaction was more rapid than most had forecast. Even more so than was the case with our strategic, economic and political engagement with the region. In terms of educational trade, the growth was spectacular. From 2,000 full fee paying students in 1986, there are now over 60,000 full fee paying students in Australia each year.

Unfortunately, in trying to respond quickly to this demand, some education institutions faltered and there were some abuses. Some students were left without prospects of recouping prepaid fees from institutions which had closed.

Admittedly, Government policy and administrative mechanisms also had some difficulty adjusting quickly to these signals. These problems damaged our education reputation overseas. Events in the People's Republic of China (PRC) in June 1989 added further complications, given the many PRC students in Australia and those in the PRC who had paid fees for Australian courses. In the interests of maintaining Australia's reputation for fair dealing, the Australian Government refunded fees to more than 12,000 international students, most of them from the PRC.

Both government and education providers learnt much from this phase. There have been renewed efforts through legislation, codes of practice and professional development and spread of “best practice” to safeguard the reputation of Australian education.

In 1993, around 63,000 international students chose to study in Australia, creating export earnings of some $1.4 billion. As an earner of foreign exchange, international education is now just behind wheat, one of Australia's leading export earners.

There is now a mature recognition that the direct economic benefit to Australia and education providers must be matched and balanced with relevant and high quality education and support services, together with a commitment to apply some of this economic benefit to broaden our education interaction with the region.

**Internationalisation Phase**

In parallel with, and to support, the domestic education and training reforms aimed at producing a more skilled and competitive workforce, there were renewed and vigorous efforts to broaden the “internationalisation” of Australian education. This meant changing the content of Australian education and research and opening up education opportunities for Australians in Asia.

An important element of these efforts was the emphasis placed on engaging regional governments in a two-way dialogue on education and training policies and programs. The aim has been to ensure and demonstrate the relevance of Australian education and training for Australian and regional students and to find
new ways of sharing education opportunities and resources.

The Australian Government is networking with governments in the Asia-Pacific region at two levels:

1. A strategic level—characterised by bilateral and multilateral government-to-government co-operation; and

2. An operational level—characterised by program development and project implementation.

Strategic Level

Over the last three to four years, new bilateral agreements have been negotiated with a number of regional countries, including the People's Republic of China, Brunei, Indonesia, Thailand and Vietnam. These agreements cover a full range of education and training interactions.

For example, in Indonesia, our relationship has accelerated and deepened as a result of Ministerial exchanges which involved the Indonesian Ministers for Education and Culture and Manpower and Australian Ministers for Employment, Education and Training. They have agreed on a policy and framework for education and training co-operation. In a recent speech at the Australia Today-Indonesia '94 Education Conference, the Indonesian Minister for Education and Culture, Professor Wardiman Djonegoro, highlighted the need to maintain and further develop networks with Australia to inform the Indonesian policies of linking and matching education with industry needs.

Minister Latief of the ministry of Manpower has agreed to a program which extends to co-operation in the training of the workforce in both countries, as well as to the enhancement of labour market analysis and employment services.

Building on the interaction fostered by the long university aid program in Indonesia, Australia and Indonesia have developed a dialogue on the policy and strategies for reform of higher education. Our universities have received further government support for collaborative exchange programs in research and curriculum development.

We are also developing exchanges at the school level and development of Indonesian texts for our primary to secondary curriculum. Teachers are exchanged in both systems and the last Federal Budget allowed us to increase the number and broaden the locations of this exchange.

Even where we do not have formal government agreements, there is concerted effort to broaden education interaction. An active teacher exchange program exists with Japan. Australians are serving internships with Japanese institutions that have been successful in commercialising research and development. Japan has also been a joint advocate of University Mobility in Asia and the Pacific scheme, initiated by Australia.

With Government encouragement, collaborative arrangements have been developed between Australian and Korean institutions and industry on applied research projects. These bilateral agreements and collaborative arrangements are only a few of the many which could be listed here.

Australia has also been active in multilateral forums to ensure that education interaction remains at the centre of discussions about regional integration.

At the APEC leaders summit in Seattle, human resource development was identified as the basis for economic growth and development of the region. Of all APEC working groups, the Human Resources Development Working Group is arguably the most active and farthest reaching. Australia has been an initiator and leader in the development of the widespread network of institutions and enterprises now joining with each other in discussing the policies and practices needed to support human resource development across the region.

Operational Level

The second level at which the Australian Government is networking with the Asia-Pacific region is through innovative programs and projects to develop interaction between Australia's education system and those in countries of the region. Some examples are:

- The Targeted Institutional Links Program which provides seed funding to Australian higher education institutions to support links with key research institutions in the region thus fostering Australia's internationally competitive research and development in areas of national priority. This program is complemented by scholarship awards to scholars from Korea and Taiwan;
- The Research and Development Internships in Asia. This will allow Australian research scholars to serve internships with industrial researchers in Asia on commercialisation of R&D projects;
• The National Asian Languages Scholarship Scheme which provides opportunities for Australians to undertake advanced language training in country for 6 to 12 months;
• The Australia Awards for Research in Asia similarly provide opportunities for Australians to undertake advanced research in country for 6 to 12 months;
• The Asian Language Teachers In-Country Scholarships which assist teachers of Asian languages to undertake short-term in country study in Asian languages and culture; and
• The University Mobility in Asia and the Pacific (UMAP) program which aims to improve the quality of higher education in Australia through increased mobility of higher education students and staff. Australian universities may participate in a regional UMAP program, arranging exchange programs for Australian students to undertake one or more semesters towards their degree in universities overseas. (Some 180 Australians participated in pilot programs in Thailand and Japan from 1993).

The Australian International Education Foundation (AIEF)

On November 30, 1993, the Commonwealth Government announced the decision to establish the Australian International Education Foundation. This decision signalled the Government’s recognition of the importance of international education and training to Australia and, in particular, its contribution to the Government’s policies of encouraging and fostering links with Asia.

In announcing the decision, the Minister emphasised that the arrangements for the running of the Foundation represent a government/industry partnership. It provides us with a real opportunity to bring together the expertise across the various education sectors and government in a united effort to develop links with the Asia Pacific region and to consolidate Australia’s position as a regional leader in education and training.

The key functions of the Foundation will be:

• National consultation on policy development and business planning;
• Market research and intelligence;
• Student information and advice;
• Generic promotion and marketing of Australian education and training;
• Government-to-government liaison; and
• Administer the Government-supported international education programs.

The Foundation will bring together the efforts of institutions, industry and government in a coherent fashion. It will provide the mechanisms to link industry promotion and marketing with government-to-government liaison, thereby maximising the benefits to education and training institutions of government networking.

A governing Council for the Foundation was announced recently by the Minister and will constitute a Council of the National Board of Employment, Education and Training.

The Council will provide independent policy advice to the Minister for the promotion and marketing of Australia’s education and training services and systems and provide guidance on the operations of the Foundation. The Council membership brings together a wealth of expertise in international education and training activities.

Members appointed to the Council are:

• Mr Peter Laver, Chair NBEET;
• Professor Mal Logan, Vice-Chancellor, Monash University;
• Professor Ken McKinnon, Vice-Chancellor, Wollongong University;
• Professor Nell Arnold, Head, School of Marketing, Advertising and Public Relations, Queensland University of Technology;
• Ms Sue Christophers, The Office of Training & Further Education, Victoria;
• Mr Brian Gray, Executive Chair, Metropolitan Business College;
• Ms Imelda Roche, President, Nutri-Metics International Holdings;
• Mr Peter Grant, Acting Deputy Secretary, DEET;
• Mr Michael Johnson, Executive General Manager, AUSTRADE; and
• Mr Eric Mayer has been appointed as Chair of the Council.

It is expected that the offshore operation of the Foundation will commence in early 1995.

Funding for the Foundation’s marketing activities will be provided by both industry and Government. The Commonwealth will contribute two dollars for each dollar contributed by industry.
The Foundation will run a network of offices overseas. This network will operate at two levels. The first will be through the Australian Education Centres which provide student information and advisory services. These centres will be the focus of promotion and marketing of Australia’s international education services overseas.

The second level will operate from Australian Diplomatic Missions. The focus of operations at the Missions will be the functions of government-to-government liaison and the administration of the Government’s international education programs described earlier.

It is through these functions that the Foundation will directly contribute most to networking in the region.

Education and training counsellors have been posted to Bangkok, Jakarta, Kuala Lumpur and Beijing to manage the Foundation’s activities in these countries and plans are also proceeding for placements in Tokyo, New Delhi and Hanoi. Existing counsellors are already providing a focal point for facilitating greater co-operation in education and training.

Each Counsellor will be responsible for developing and maintaining contacts with in-country government departments, and education and training institutions. They will also be responsible for the development of agreements which will foster bilateral relationships and for facilitating institution-to-institution linkages.

Summary

In conclusion then:

- Australian governments and education and training systems and institutions have acknowledged the challenge of becoming the extension of Captain Cook’s ship The Endeavour and that the voyage of discovery needs to be extended;

- they have also acknowledged that the extended voyage of discovery not only includes a reassessment of the nation’s relationship with its indigenous culture, but has fundamentally changed the nature of the way we pursue that exploration at home and in our region. It is now characterised by Mutual Engagement—not conversion or exploitation; and

- This is not to say that the whole crew is yet committed to this principle or that the ship is in perfect sailing trim, but it has clearly moved out from the dock of intellectual complacency. What we are learning from these new regional explorations is that, through the true internationalisation of our education and training, Australia has much to benefit from and contribute to the social and economic dynamism of this region.

◆ ◆ ◆
Malaysians spend RM 1 billion studying overseas each year (Malaysian Business, May 1993).

This according to the Government is an alarming amount of cash drain. As a result, the government is seeking ways for Malaysians to spend less on overseas education. One of these, the "twinning concept", appears to be cost saving.

The Twinning Concept in Malaysia

The thirst for higher education led to the dramatic increase in the number of colleges based on the twinning concept, especially since people began to realise the money potential in it.

Several corporations, more of which have an education background of the necessary expertise, started moving the field. Some of the prominent ones are Sungei Way (Sunway College), MBf (Taylor’s College and Garden School), Paramount Bhd (Kolej Damansara Utama), Melewar Corporation (Mahkota College), Selangor Properties Bhd (HELP) and JSEDC (IMC). The prospects are promising as seen in the case of MBf Education Bhd, the education arm of the MBf group which is expected be listed on the second board of the KLSE at year end.

With program quality and prudent management, a private education institution involved in the twinning concept, with a minimum of 300 students paying an average of RM 7,000 a year, would bring in RM 2.1 million in gross earnings annually. (Figures quoted by Dato MS Tan, Chief Executive of Metropolitan College in Malaysian Business May 1993).

Professor Terri Hew, Group Director and Chief Executive of Kolej Damansara Utama, quotes "that investment in education is recession proof." In 1989, when the construction industry was badly hit by the recession the education wing contributed 84% of the gross earnings for the entire group.

The Sunway Group with 3,000 students makes between RM 15-18 million per year from the education wing.

Why the Need for Serious Effort in Twinning for the Needs of the Engineering Field?

There are at the moment 8 fully-fledged government-assisted Universities in this country. They are the University of Malaya, National University of Malaysia, University of Agriculture, University of Science, University of Technology of Malaysia, International Islamic University, Northern University and Sarawak. The only university which has an almost total focus an engineering and technology is the University of Technology of Malaysia (UTM). The other universities which have established engineering facilities are the University of Malaya, the National University of Malaysia, University of Science and University of Agriculture. The international Islamic University recently established its own engineering faculty.

There are also a number of private colleges offering technical and engineering courses with the major ones being Sunway College, Sepang Institute of Technology, Federal Institute of Technology, Technical Training Institute, Sedaya College, Inti College and Kolej Tunku Abdul Rahman.

It is estimated that there would be a demand of about 30,000 engineers during the period 1990-2000. But under current circumstances the output of engineers by the year 2000 would only be 21,000. The country would have a shortage of about 9,100 engineers (See Table 1).

The shortage of engineering assistants would be even more serious. By Year 2000, Malaysia would have a shortage of 38,830 engineering assistants. The shortage of engineers would be acute in Civil (4,700), Electrical/Electronics (4,200) and Mechanical (1,600). The shortage of engineering assistants would be in Civil (11,000), Electrical/Electronics (22,400), Mechanical (14,400) and Chemical (4,830) (Malaysia Second Outline Perspective Plan, 1991-2000).

The potential pool of scientists and engineers in Malaysia is far below that of countries which are already industrialised (See Table 2).

Japan has a pool of 8,672,000 scientists and engineers and an equally strong pool of 4,955,000 potential technicians. Malaysia has only about 26,000 potential scientists and engineers. Malaysia also lags far behind in technician strength as there are only 72,400 potential technicians in the market.

Table 1
Estimates of Shortages in Engineering Occupations

<table>
<thead>
<tr>
<th>Occupation Shortage</th>
<th>1990</th>
<th>2000</th>
<th>Projected Demand Public Institutions</th>
<th>Output of Local</th>
<th>Shortage of Engineers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineers</td>
<td>26,500</td>
<td>56,600</td>
<td>30,100</td>
<td>21,000</td>
<td>Yes</td>
</tr>
<tr>
<td>Civil/Electrical</td>
<td>11,100</td>
<td>19,500</td>
<td>8,400</td>
<td>3,700</td>
<td>Yes</td>
</tr>
<tr>
<td>Electronics</td>
<td>6,200</td>
<td>14,600</td>
<td>8,400</td>
<td>4,200</td>
<td>Yes</td>
</tr>
<tr>
<td>Mechanical</td>
<td>5,200</td>
<td>10,800</td>
<td>5,600</td>
<td>4,000</td>
<td>Yes</td>
</tr>
<tr>
<td>Chemical</td>
<td>800</td>
<td>2,000</td>
<td>1,200</td>
<td>900</td>
<td>Yes</td>
</tr>
<tr>
<td>Others</td>
<td>3,200</td>
<td>9,700</td>
<td>6,500</td>
<td>8,200</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Engineering Assistants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil</td>
<td>27,100</td>
<td>58,500</td>
<td>31,400</td>
<td>20,400</td>
<td>Yes</td>
</tr>
<tr>
<td>Electrical/Electronics</td>
<td>32,300</td>
<td>75,900</td>
<td>43,600</td>
<td>21,200</td>
<td>Yes</td>
</tr>
<tr>
<td>Mechanical</td>
<td>6,400</td>
<td>32,400</td>
<td>26,000</td>
<td>11,600</td>
<td>Yes</td>
</tr>
<tr>
<td>Chemical</td>
<td>600</td>
<td>6,000</td>
<td>5,400</td>
<td>570</td>
<td>Yes</td>
</tr>
<tr>
<td>Others</td>
<td>6,000</td>
<td>22,500</td>
<td>16,500</td>
<td>30,300</td>
<td>Yes</td>
</tr>
</tbody>
</table>


Table 2
Potential Scientists and Engineers in Malaysia, Japan and Korea, 1990 Figures

<table>
<thead>
<tr>
<th></th>
<th>Potential Scientists and Engineers</th>
<th>Potential Technicians</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>26,000</td>
<td>72,400</td>
<td>98,400</td>
</tr>
<tr>
<td>Japan</td>
<td>8,672,000</td>
<td>4,955,000</td>
<td>13,627,000</td>
</tr>
<tr>
<td>Korea</td>
<td>94,171</td>
<td>1,931,468</td>
<td>2,025,639</td>
</tr>
</tbody>
</table>

Emerging Problems

The twinning concept is very popular in Malaysia at the moment with a large number of American, British, Australian and New Zealand universities involved in education projects with local investors. Several problems have been identified in these ventures:

1. The foreign partners have an "academic" bias. This can pose problems, especially those linked to credibility of packages offered and standards. In some cases, packages offered are "watered down" so as to minimise costs. "Distance education packages" have been offered to students undertaking full-time study.

2. Local academics are entrenched in government universities in Malaysia. At the moment, since the twinning concept is still in its infancy, academics in local universities are reluctant to work in private twinning colleges for fear of instability. When twinning concept colleges are set up, they rely very much on inexperienced staff.

3. The attitude of some students who enrol in twinning colleges has worsened the situation, especially with regard to standards. Students who are finally given a chance to acquire a "foreign" degree with minimal costs are not particularly concerned with obtaining a good education. They seem to be more concerned with efforts to obtain a fast foreign degree in the cheapest possible way. This attitude plays into the hands of unscrupulous businessmen who have an education package to sell.

4. Since private education is all about business, most investors favour courses which bring about the quickest returns. Many colleges offer courses in the pure sciences, economics and law fields as the overheads are not high. None of the twinning colleges offer a good engineering package as engineering packages include costly laboratories and are really long term investments which do not bring about quick returns.

Future Needs and Directions

1. There must be a drastic change in the twinning concept colleges in the country if such arrangements are to be beneficial to both the local and foreign partners. One possibility would be for the government itself to be involved in the evaluation of courses. The government can also participate in private education by contributing funds to institutions which offer costly packages like engineering. This would be very positive as the interests of the nation are addressed.

2. Foreign universities should play a greater role in twinning colleges. Initiatives must be taken by foreign partners to start Research and Development. If foreign twinning partners show an interest in Research and Development, the government would, in turn, provide generous support as this would be in the interest of the nation.

References