

## DOCUMENT RESUME

ED 458 691

EA 031 404

TITLE Education for 2001 and Beyond: Imperatives and Possibilities. Outcomes from the ACE "Education 2000" International Conference.

INSTITUTION Australian Coll. of Education, Deakin.

ISSN ISSN-0311-4775

PUB DATE 2000-12-00

NOTE 65p.; Theme issue. Published three times a year. Papers presented at "Education 2000: Priorities for the New Millennium" (Sydney, New South Wales, Australia, July 2-5, 2000).

AVAILABLE FROM For full text: <http://www.austcolled.com.au/resources.html>.

PUB TYPE Collected Works - Serials (022) -- Speeches/Meeting Papers (150)

JOURNAL CIT Unicorn: Journal of the Australian College of Education; v26 n3 Dec 2000

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS Curriculum; Educational Change; Educational Strategies; \*Educational Theories; Elementary Secondary Education; Foreign Countries; \*Learning Strategies; \*Learning Theories; Standards

## ABSTRACT

This issue of "Unicorn," the journal of the Australian College of Education (ACE), contains extracts and summaries of 13 presentations given at the international ACE conference, "Education 2000: Priorities for the New Millennium." The papers not only address the five themes of the conference (priorities for learning, priorities for supporting learning, priorities for learning to learn together, priorities for the teaching profession, and priorities for learning partnerships and pathways), they also touch on learning societies, individual learning, vocational learning, formal institutions of learning, the role of schools, the school curriculum, the role of teachers, professional standards of teaching, the support of teacher professional development, student learning, resourcing, Australian education, indigenous education, and Australia and its region. Much of the discussion adopts a global perspective and includes comments on the social function of schools, curriculum delivery, clarity of mission, and the model of teacher as knowledge engineer. The latter component speaks of when a teacher designs the stages that allow an individual to move from a dependent learner to an independent learner, to a life-long learner. If schools are to be seen as important creators of cultural, ethical, social, and economic knowledge, then educators must recognize that standards and benchmarks for teacher quality must change over time. (Each paper contains references.) (RJM)

# EDUCATION FOR 2001 AND BEYOND:

## *Imperatives and Possibilities*

PERMISSION TO REPRODUCE AND  
DISSEMINATE THIS MATERIAL HAS  
BEEN GRANTED BY

Z. Craven

TO THE EDUCATIONAL RESOURCES  
INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION  
Office of Educational Research and Improvement  
EDUCATIONAL RESOURCES INFORMATION  
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

*Outcomes from the ACE  
'Education 2000'  
international conference*

unicorn

Journal of the  
Australian College of Education  
VOL 26, NO 3 DECEMBER 2000

**BEST COPY AVAILABLE**

**U**nicorn is the journal of the Australian College of Education, published three times each year. All subscription, editorial, advertising and other inquiries should be directed to the College's national office in Canberra in the first instance. All members receive **U**nicorn as part of their annual subscription (see inside back cover for details). The major purpose of the hard copy version of **U**nicorn is to disseminate the outcomes of conferences, forums and symposia on issues of national significance. Please note that members can also access an on-line version of **U**nicorn comprising additional refereed, expert and cutting-edge articles on contemporary issues.  
<http://www.austcolled.com.au/resources.html>

ISSN 0311 4775

© The Australian College of Education, 2000

All material appearing in Unicorn is copyright. Apart from any fair dealing for educational purposes as permitted under the Copyright Act, no part may be reproduced by any process without written permission from the publisher.

**The Australian College of Education**

ABN 96 562 879 327

PO Box 323, Deakin West ACT 2600

James Darling House, 42 Geils Court, Deakin ACT 2600

Phone (02) 6281 1677

Fax (02) 6285 1262

Email [ace@austcolled.com.au](mailto:ace@austcolled.com.au)

Website <http://www.austcolled.com.au>

The views expressed are those of the individual authors and do not necessarily represent the views of the Australian College of Education.

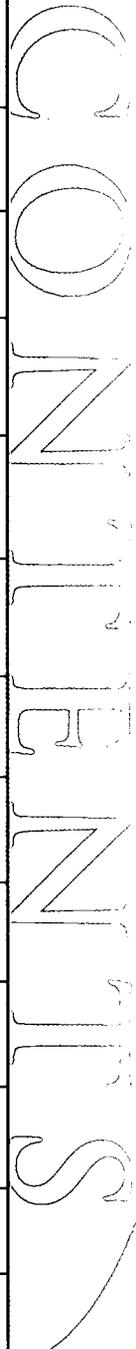
Designed by Art Graphic Design

Printed in Australia by Paragon Printers Australasia

Print Post Approved PP 231 677/00009

# CONTENTS

Introduction Susan Pascoe	1
From Priorities to Action: Implications for ACE Jim Cumming and Norman McCulla	3
Priorities for the New Millennium Susan Pascoe	12
Personal Capacity, Social Competence and Learning Together Kai-ming Cheng	18
The Quest for a New Learning Paradigm Roberto Carneiro	26
A Paradigm Shift for Development Assistance Maris O'Rourke	34
Closing the General-Vocational Education Divide: The Tough Issues Sandra Yates	41
Styles of Learning Julia Atkin	50
The Sound of Eternity in the Midst of Change Christopher Gleeson	51
Teacher as Knowledge Engineer Gordon Stanley	52
Connected Learning by Knowledge Workers Manoj Chandra-Handa	53
Policy for Future Teachers Barbara Preston	54
Standards for Professional Practice Paul Brock	55
Learning Cities of the New Millennium Denis Ralph	56



# The Australian College of Education & Encyclopædia Britannica would like to present you with the opportunity to own the world's most renowned and respected reference tool on CD-ROM

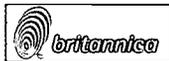


Encyclopædia Britannica has been the world's premier source of knowledge for over 230 years and the 2001 edition now offers more content than ever before. No other CD-ROM encyclopædia can match Britannica's breadth & depth of information.

#### THE 2001 DELUXE CD EDITION INCLUDES:

- 8,700 images
- 1 hour of video and audio
- plus offers over 125,000 web links

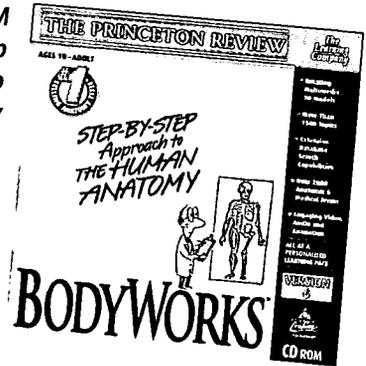
For a limited time, as an ACE member you can own this world-renowned product for \$199\* and receive a FREE BodyWorks CD-ROM worth \$49.95!



**BONUS OFFER**  
valued at  
**\$49.95**

*The BodyWorks CD-ROM is a fascinating step-by-step educational tool with which to explore the human anatomy at your chosen pace.*

*It includes video, audio, animation and multimedia 3D models and covers more than 1500 related topics in-depth.*



To order simply call **1800 000 061** and quote **DR061ACE** to have Encyclopædia Britannica delivered to your door

# INTRODUCTION

As the outgoing President of the Australian College of Education, it is with very great pleasure that I introduce this issue of *Unicorn*.

You will have noted significant changes in our journal during the past eighteen months. Not only has the style and format been transformed, but the content is more focused, contemporary and dynamic.

Given responses to a member survey conducted in August 1999, we decided to move from a conventional refereed journal to a 'hands-on' publication concerned with the outcomes of professional interaction on issues of national significance. Our twin objectives are to create much greater coherence in content, as well as to establish greater consistency in terms of ACE policy and program development.

As you will be aware, following the conduct of recent national forums and symposia, we have published outcomes on Indigenous education, professional teaching standards and school resourcing. A key feature has been the collaborative development of working documents designed to maintain the momentum of participant discussion and interaction.

Some of the action-oriented drafts published so far include:

*A Commitment to Action* — A working document from a national forum on Indigenous Education, 3–5 November 1999.

*Professional Teaching Standards: Towards collaborative and strategic action* — A working document from a national forum, 24–25 February 2000.

*School Resourcing: Keeping the issues alive* — A draft action plan from a national symposium on school resourcing, 16 June 2000.

As College President, it is pleasing to see the extent to which these documents are being used in a range of settings and contexts. The decision to upload to our new interactive website the contents of not only the working documents, but also presentations, panels and workshops, has meant that people from within and beyond ACE who are interested in national education issues can access this significant information.

—●—  
“there are  
implications  
for all of us as  
educators”

I should also add that I am delighted that refereed articles remain a vital part of College activity. The power of current information and communication technologies means that such papers are now uploaded to the ‘Member’ pages of our website as soon as they are reviewed, thereby avoiding lengthy delays in the publication of hard copies. At least eight papers have been published so far this year in our new on-line version of *Unicorn* — see <http://www.austcolled.com.au/resources.html> for details.

Let me now focus on the contents of the current issue of this hard copy version of *Unicorn*. After extensive planning by the NSW Chapter under the leadership of Alan Harper, the ACE *Education 2000* international conference was held in the Blue Mountains, 2–5 July 2000.

Feedback from participants indicated that this was a spectacular conference — especially in terms of the contents of keynote and other presentations. International speakers of the calibre of Roberto Carneiro, Maris O’Rourke, Kai-ming Cheng and Barry McGaw ensured that a global perspective was generated and maintained. Other presenters like Sandra Yates, Denis Ralph, Ian Morgan and Julia Atkin presented local and national perspectives that challenged educators at all levels.

Under the conference theme of *Priorities for the new millennium*, many critical issues were raised, not the least of which was the role of education in a global context. Not surprisingly, there are implications for all of us as educators — as individuals and as the members of organisations within which we operate. For example, there are implications for learning, teaching and resourcing. The challenge is how to respond in ways that will make a difference.

In my view, the strength of this issue of *Unicorn* is that it adds value to this international conference. The overview chapter by Jim Cumming and Norman McCulla provides not only a useful synthesis of outcomes, but also a means for advancing the issues raised. For example, the ‘working document’ in this instance constitutes a framework of four priorities identified for action by the College Council in 2001 and beyond. (see p. 11)

It should be emphasised that only edited extracts of the keynote addresses and a selection of summaries of panel and workshop presentations are included here. Full versions of most of the material presented at the conference can be accessed via the ‘Member’ pages of the College website.

A major part of Barry McGaw’s paper has been published in the preceding issue of *Unicorn* on school resourcing — Vol 26, No 2, p.18–23 — and therefore is not reproduced here. Similarly, the presentation by Steve Dinham and colleagues has also been published as the second in our new Quality Teaching Series, namely, *The Secondary Head of Department: Key link in the quality teaching and learning chain*.

I urge you to take forward the issues that have been raised. Help ensure that the dialogue generated in the Blue Mountains is maintained. Assist in the process of translating rhetoric into reality. If you have any creative ideas on how ACE conferences and publications can best meet your needs, then please let us know via [ace@austcolled.com.au](mailto:ace@austcolled.com.au).

*Susan Pascoe*  
President

# FROM PRIORITIES TO ACTION: IMPLICATIONS FOR ACE

*Mr Jim Cumming*

*Executive Director, Australian College of  
Education and*

*Dr Norman McCulla*

*Convenor, Conference Program,  
'Education 2000'*

A thought that was in the minds of the NSW Chapter of the Australian College of Education some years ago as it planned *Education 2000: Priorities for the New Millennium*, the College's international conference to be held in Sydney in July 2000, was that the beginning of a new millennium provided a unique opportunity to reflect on progress and to chart new directions in most fields of endeavour.

A second thought was that the College holds a unique position in providing both leadership and support to the education community throughout Australia in identifying key issues that need to be considered in the education policy-making process. It can do this because it is non-sectarian, not politically aligned and with a membership that encompasses all sectors and levels of education. The question was how to go about this in a conference.

Five themes were set to be addressed by a wide cross section of international and Australian speakers. The themes were:

- priorities for learning
- priorities for supporting learning
- priorities for learning to learn together
- priorities for the teaching profession
- priorities for learning partnerships and pathways .

**“unique opportunity  
to reflect on progress  
and chart new  
directions”**

International keynote speakers who addressed the themes included:

- Professor Roberto Carneiro, with a background of work with UNESCO, the World Bank, OECD and the Council of Europe
- Dr Maris O'Rourke, Director of Education, World Bank and, formerly, Chief Executive of the Ministry of Education in New Zealand
- Professor Kai-ming Cheng who is currently working between both Hong Kong and Harvard universities
- Professor Barry McGaw, Deputy-Director for Education, OECD, Paris and, formerly, the Executive Director of the Australian Council for Educational Research.

## “a heightened sense of purpose and possibility”

As always at College conferences, an impressive range of Australian educators offered their services as keynote and other presenters. They included:

- The Hon. John Aquilina, NSW Minister for Education and Training and, formerly, an English/History teacher
- Ms Susan Pascoe, Coordinating Chairperson, Curriculum and Support Services at the Catholic Education Office in Melbourne and the 1998–2000 President of the Australian College of Education
- Dr Paul Brock, Director of Strategic Research, NSW Department of Education and Training
- Professor Chris Duke, formerly, Deputy Vice-Chancellor of the University of Western Sydney and President of University of Western Sydney, Nepean
- Professor Gordon Stanley, President, NSW Board of Studies
- Ms Sandra Yates, Chair, NSW TAFE Commission Board.

Whenever educators from different settings and varied experiences convene to consider 'big' ideas in education, there is often a heightened sense of purpose and possibility. At *Education 2000*, for example, there were compelling arguments that learning styles for the current 'information' age need to be significantly different from those of the 'industrial' era. At the same time, there was increasing recognition that education is a critical factor in addressing a number of global issues, for example, the elimination of poverty and the protection of our environment.

Presenters at *Education 2000* spoke about the need for 'learning societies', 'learning cities' and 'communities of practitioners'. There were calls for 'teachers as knowledge engineers' and new forms of 'enhanced professionalism', as well as more 'self-directed' and 'lifelong' learning at the individual level. Needless to say, references to further application of information and communication technologies such as 'connected learning' and 'cyber learning' were also pervasive.

What follows is an overview of some of the key themes that emerged from over 50 presentations at the conference. It is but one interpretation. To assist readers in exploring the themes further, many of the papers presented at the conference can be found on the 'Member' pages of the College website <http://www.austcolled.com.au>. A number of the papers are referenced in the text to assist the reader in exploring a specific theme further.

If this overview chapter gives a flavour of some of the discussions and insights at the conference, encourages the reader to explore a theme in greater depth through the relevant papers and, ideally, stimulates local action, it will serve a useful purpose.

## Priorities in the new millennium

### 1. For learning

Learning occupies the central role in all modern societies. This requires successful societies to develop a new momentum to promote learning through life by nurturing true learning cultures. Learning throughout life is highly contingent upon the formation of vibrant cultures, both at

individual and societal levels (Carneiro). The good news is that the style of learning needed for the 'knowledge era' is congruent with the natural laws of learning (Atkin).

Inclusiveness is a major policy issue that must be tackled in the near future given that it is the fundamental lever of societal progress or regress. This must be achieved in a society where the sources of knowledge are changing, especially through the Internet and global networks (Carneiro). Learning is basically a community activity, with the main role of education being to ensure that all citizens achieve a baseline capacity of learning for life (Cheng).

## 2. For learning societies

A realisation of the unity of learning can be achieved through the concept of a learning society made up of robust learning communities fully empowered to conduct the business of education and training in accordance with their communal identities. We need to support the concept of a 'learning city', working within spheres of influence and in partnership with communities to translate the vision of an integrated learning city into reality (Ralph). We need to develop a seamlessness of learning (Carneiro). There is also a need to expand social learning at the expense of academic learning (Cheng).

Learning cities give access to social capital, reduce social exclusion and foster participation in a civic society. The knowledge society requires and demands the active, informed, empowered and competent participation of all its members if it is to avoid becoming a destructively divided nation. This means that we have to equip all for learning through life and across life by partnerships in the learning society. It also means the end of any existing monopoly of recognised and approved learning by the way our social, community and work institutions operate as places for learning (Duke).

## 3. For individual learning

Personal learning is vitally important to all stages of one's life span. There are three different developmental goals:

- personal and cultural development, related to sense, meaning-making and spiritual wealth

- social and community development, related to citizenship, participation and sociality
- professional learning and sustainable employment, related to production, job satisfaction, material wealth and economic pursuit (Carneiro).

Effective policy development must cater for each of these. In addition, there are implications for student assessment, for example, the development of transferable credit-unit schemes or 'credit banks', which provide students with much greater control over the learning process (Cheng).

“promote learning through life by nurturing true learning cultures”

## 4. For vocational learning

Given dramatic changes to the workplace in recent years, increasingly, people are expected to be multi-skilled and have the capacity to work across various knowledge areas. The emphasis is on training for specialised skills, rather than creating specialised people (Cheng). Similarly, conventional models (e.g. trade training, knowledge transmission) are being replaced by approaches that focus on face-to-face imparting of practical experience (Cheng).

Given that the mismatch between old skills and new jobs is growing, we need to know more about the social, economic and workplace changes that have occurred, project them into the future — and assess what implications they have for the ongoing development of Australia's education and training system (Yates). Australian employers want in employees an appropriate mix of general and specific skills and knowledge, of both academic and vocational learning, of the theoretical and the practical. They want high levels of literacy and numeracy, self-confidence, adaptability, personality, a problem-solving capacity, and communication skills — at all levels of the workforce and in all areas of economic activity (Yates).

## 5. For formal institutions of learning

School, universities and teachers have throughout time been 'knowledge pillars' of human and social progress. Dreaming of a learning society without catering for their contribution would be inadmissible. Schools still provide the best embryo of multi-purpose learning centres. Universities are key knowledge-hubs and irreplaceable factories of new knowledge and homes of advanced learning. Teachers meet the core requirements to occupy the forefront of lifelong learning enterprises. A new policy thrust would:

- offer study time for all after compulsory education
- carefully examine the strong features of the dual system and extend strengths to overcome the current trust gap between companies and schools
- develop network learning and strong partnerships to enhance lifelong learning opportunities
- put teachers and educators at the centre of the learning society and provide them with the incentive to embark of lifelong learning strategies (Carneiro).

“training for specialised skills, rather than creating specialised people”

## 6. For the role of schools

The prime mission of schools should be on learning for all, as distinct from producing an educational elite (Cheng). The social functions of schools and schooling in the context of work and community need to be re-analysed and reviewed by redefining 'education' and 'teaching' for post-modern times (Duke).

Curriculum offerings need to be enhanced in the post-compulsory years through integrated, multi-campus college structures. The learning needs of younger adolescence in Year 7 to 10

need to be enhanced through innovative teaching and learning approaches of student welfare programs and structural change (Laughlin). Structural changes also need to be created in the middle years of schooling to promote learning organisations and, in particular, to address the learning needs of boys (Anderson).

“basics are far more than the 'three Rs'”

## 7. For the school curriculum

Knowledge needs to be developed of the relationships between expectations, standards and pedagogy as well as the capacity to monitor and report performance against standards (Aquilina).

The debate about the purposes of education needs to be revisited to ensure continued relevance of schooling. Curriculum delivery will need to be reorganised as well as teacher pedagogy and assessment and reporting processes. The 'new basics' of education need to be developed.

Clarity is required on what is to be taught in primary schools. The basics are far more than the 'three Rs'. We need to re-interpret what 'child-centred education', 'individualised instructions', 'meeting the needs of a learner', and 'learning how to learn' mean in relation to today's learners in primary classrooms. It requires the construction of learning environments that reflect the changed learning demands of students (Lambert).

We need to develop further the interface between curriculum standards and performance standards as the main factor influencing quality teaching and learning, strengthening the link between content and outcomes on the one hand, and assessment and reporting on the other (Ward).

## 8. For the role of teachers

Students will need to access more information sources, but in ways that do not diminish the role of their teacher. Teachers' roles will

broaden to that of guide, mentor, coach and facilitator — identifying, planning, monitoring and evaluating the learning needs of students. This will require a continuum of learning — recognising and building on previous learning, and preparing for further learning, employment and training. Students will need a clear sense of the standards expected of each stage of schooling. They will need to have the knowledge, understandings, skills and values to participate effectively in Australian society (Aquilina).

“students will need a clear sense of the standards expected of each stage of schooling”

We need to develop the notion of the teacher as a knowledge engineer, designing the stages of the process whereby an individual moves from a dependent learner, to an independent learner, to a life-long learner, and incorporates design, planning, project management and team work (Stanley).

Students need to be helped realise that particular choices and decisions are not inevitable but are based on values, and that change is possible if it will lead to better outcomes (Pepper).

The formative development of character is an essential part of the education process. Character is not simply a given. The teaching of values and virtues by parents and teachers is essential in assisting youth to find their way through the maze of change. The focus of good, moral education needs to be on both rights and responsibilities (Gleeson).

**9. For professional standards of teaching**

Good teachers, principals and other school leaders really do make a difference. We need to develop a commitment to the establishment and use of standards of professional practice, identifying professional teacher standards through the teaching profession to a point

where, ultimately, they are owned by the profession. Any attempt to establish professional teaching standards will require an accurate and comprehensive understanding of the nature of the work of teachers, principals and other school leaders. Professional teaching standards must facilitate the concept of a career-long continuum from probationary teacher to retirement as well as celebrate the individuality which is the hallmark of being a professional. (Brock).

If schools are to be seen as important potential creators of wealth in all its forms — cultural, ethical, social and economic — school educators must meet high expectations by performing at high levels in their quest for continuous school improvement. To do this we must:

- recognise that it is inevitable that standards and benchmarks for teacher quality must change over time
- encourage teachers to share ownership in changing and raising standards through direct participation in educational enquiry, including research programs
- integrate learning improvement with professional well being
- develop a sense of shared adventure through enquiry (Harrison et al).

“an accurate and comprehensive understanding of the nature of the work of teachers”

Judgements about professional performance must be made on a set of continua rather than on either side of a dichotomy, describing what can normally be expected of people at a given level of performance rather than when an individual has attained mastery of a skill. A professional standards framework must have the capacity to promote professional development (Clarke et al).

## **10. For supporting teacher professional development**

Effective teacher professional development requires the maintenance of a productive tension and balance between workplace learning and external input, between stimulus for change and support for change. It requires the use of a range of information-rich sources to stimulate teacher professional learning, addressing fundamental issues of concern to the learner, the most important of which is improving student learning outcomes.

### **“a productive tension and balance between workplace learning and external input”**

Effective teacher professional development must promote and support continuous professional learning in a team and workplace learning environment; provide time to practise; and balance use of technology with face-to-face learning. Above all, it must encourage teachers to take personal responsibility for their own learning with reference to some defined standards of professional practice (Dawson).

It is essential to recruit and train the good teachers now. To do this we need to enhance the image of the teaching profession. We need to minimise factors causing overwork, overstress and unrealistic expectations in the role of the principal as well as to increase the status of the position. We must allow principals to be leaders. We must broaden the range of skills that school principals have particularly in relation to communication technologies (d'Arbon).

We need to develop heads of departments of secondary schools as a crucial link between specialist classroom teachers and senior school executives (Dinham et al).

## **11. For student learning**

Self-directed learning is the essential and enabling tool for all young people leaving

schools in the 21st Century. Self management and self direction in learning is an essential skill to be developed for many different work place requirements (Warner).

To prepare students to participate and contribute to contemporary society, we need to go beyond established and traditional teaching and learning practices to establish connected learning by knowledge workers, e.g. connectivity in cyberspace (Cheng). This will require establishing an environment that focuses on student-centred learning and on technology to support and extend curriculum objectives. Ideally, schools will be perceived as learning organisations where teachers share learning with students, and students are exposed to a curriculum infused with exciting and technology-integrated learning programs. Learning activities need to be embedded in a curriculum centred on a new model of learning based on discovery and participation, collaborative work and creative problem solving. The essential move is one from instruction to construction, with students constructing meaning in their own minds based on interactive learning technologies, becoming independent and inter-dependent learners with flexible outlooks (Chandra-Handa).

A departure is required from what teachers like to teach to teachers teaching to defined standards. Students have a right to experience the scope of the curriculum and this can no longer be simply left to chance (Lambert).

Students will need to be equipped to live satisfying lives as individuals, citizens and employees with capacity for lifelong learning. This will require safer learning environments that deal more effectively with problems while guaranteeing the rights of all students. It will require a broad and general curriculum which:

- integrates the academic and vocational
- provides equity of outcomes between different social groups
- provides quality of outcomes for Indigenous students and students from families of low socio-economic status
- provides equity of outcomes between boys and girls

- provides better mechanisms for school improvement
- strengthens parental participation
- reflects renewed national commitment to funding government schools and social guarantee of outcomes (Morgan).

## 12. For resourcing

Countries differ not only in the level of funding they allocate to education but also in the manner in which funds are deployed. Well-defined, comparable indicators of education systems are the starting point for a serious discussion of international differences in education systems. No argument can be clinched with a single indicator (McGaw). Public resourcing of education and training in the post compulsory years needs to be strengthened if we are to reintegrate marginalised young people into mainstream education and training and provide retraining for mature-aged workers. We need to cater for the increasingly large numbers of university graduates seeking TAFE qualifications and to improve training participation and outcomes for groups currently under-represented in education and training. We have to strengthen the public provision to protect equity and focus on quality and responsiveness as the hallmarks of effective education and training with appropriate balance between protecting the public interest and ensuring market flexibility (Yates).

## 13. For Australian education

We need to:

- achieve reconciliation with Indigenous Australians
- maintain a culture of peace
- celebrate the past, shape the future
- improve educational outcomes
- establish professional teaching standards
- provide adequate school resources (Pascoe).

## 14. For Indigenous education

There is a case to be made for exploring a move to publicly-funded Indigenous schools with better options for Aboriginal students to establish alternative pathways in achieving positive Indigenous outcomes (Lester).

## 15. For Australia and its region

As well as holding a concern for equity of outcomes in the Australian education context, Australia through its aid programs in the local region needs to provide assistance to help:

- reduce the numbers living in extreme poverty
- provide universal primary education
- improve gender equity in education
- reduce infant and child mortality
- reduce maternal mortality
- expand access to reproductive health services
- reach the international targets for basic education especially for girls and for the poorest
- support early intervention programs
- promote flexible delivery
- make progress through partnerships e.g. government, grass roots, private sector and public ventures, teacher and teacher organisations, international regional and bilateral organisations (O'Rourke).

“the essential move is one from instruction to construction”

## From priorities to action: implications for ACE

In a context of an international conference, these 15 priorities fire up our imaginations and serve to expand our horizons. Of course, being temporarily removed from our usual working environments provides us with an enhanced capacity to step outside the square and exercise some lateral thinking. In the company of educational soul mates, we are motivated and optimistic in considering and/or advancing a range of future-oriented proposals.

However, when the euphoria of the conference subsides and the demands of our regular classroom or office environments take over,



maintaining the initial momentum can become increasingly difficult. In some instances, a few negative thoughts might begin to enter our heads, 'Oh, it's all just too hard'; or 'What could I possibly do that would make a difference?' or 'Without more time and additional resources, I simply can't contribute anything right now.'

“maintaining the  
initial momentum  
can become  
increasingly  
difficult”

Hence, the question is one of keeping some of the conference issues alive by considering options and strategies related to the fields of endeavour in which we work; in short, to think globally and nationally but to act locally within our spheres of influence.

For example, when the ACE Council was determining 'future directions' at its October 2000 meeting, members considered the outcomes of *Education 2000* and resolved to establish a set of priorities to be pursued at national, Chapter and regional levels in 2001 and beyond.

As an outcome of that meeting, quality teaching, education resourcing, Indigenous education, and vocational learning are ACE priorities that span all levels, sectors and settings in education. As such, they provide a framework for individual and collective action at all levels within the College.

However, if ACE is to make any real progress in advancing this agenda, it should acknowledge two important factors. First, the need to draw on the extensive knowledge, expertise and creativity that exist within its diverse membership. Second, the need to work in genuine partnership with key stakeholders who are committed to similar objectives.

Figure 1 contains the fourth in a series of ACE 'working documents' designed to foster some creative and practical thinking on the part of College members and representatives from other agencies and groups who see mutual benefits in working collaboratively on four priorities.

---

### Ascertaining responses from readers

As always, the College welcomes feedback on the contents of this issue of *Unicorn*. We are particularly keen to hear from individuals, groups and agencies who are currently working on any of the four priorities outlined in Figure 1 or who are planning to initiate or extend such work in 2001. You can do this in a number of ways including:

- Upload your comments to the 'Have Your Say' the 'Member' pages on the ACE Website — <http://www.austcolled.com.au>
  - Send an email to [jcumming@austcolled.com.au](mailto:jcumming@austcolled.com.au)
  - Submit a letter or article for publication in *Education Review* — ACE, PO Box 323 Deakin West ACT 2600
  - Send a report to ACE containing the outcomes of a professional development activity on the contents of this issue of *Unicorn* conducted in your organisation/workplace.
-

# ACE PRIORITIES IN 2001 AND BEYOND — A Working Document

## 1. Quality Teaching

### Objective

To enhance teacher professionalism with a view to improving the quality of learning and teaching in a variety of contexts.

### Strategies

- Collect and analyse responses to the national discussion paper *Standards of Professional Practice for Accomplished Teaching in Australian Classrooms* — see <http://www.austcolled.com.au/Dispaper.pdf>.
- Conduct a second national forum on professional teaching standards in mid-2001 in collaboration with other professional groups, using feedback from the national discussion paper.
- Explore the potential for collaborative projects/joint ventures in a range of areas including professional development, 'seamless curriculum', educational leadership, knowledge workers/engineers and interactive learning technologies.

## 2. Education Resourcing

### Objective

To promote equality of educational opportunity, and hence potential equality of outcomes for all young Australians.

### Strategies

- Promote mainstream debate on school resourcing issues identified in College publications (e.g. *Year Book 2000* and *Unicorn* Vol 26 No 2 — see <http://www.austcolled.com.au/resources.html>).
- Explore the potential for collaborative research and development projects on resourcing in various sectors (e.g. early childhood, VET, higher education) and settings (e.g. developing countries).
- Identify examples of good practice on flexible resourcing in a range of contexts,

with a view to publication in electronic and/or conventional form.

## 3. Indigenous Education

### Objective

To improve educational and training outcomes for Indigenous youth through an action-oriented approach.

### Strategies

- Continue to advance the Commitment to Action statement produced at the national issues forum on Indigenous Education in Alice Springs (*Unicorn*, Vol 25 No 3 — see <http://www.austcolled.com.au/resources.html>).
- Add value to the IESIP National Conference being implemented for DETYA by ACE in Sydney, 14–15 November 2000.
- Strengthen links with Indigenous groups (e.g. CESCEO Working Party on Indigenous Education, professional associations, parents) to support strategic initiatives in education and training.

## 4. Vocational Learning

### Objective

To promote stronger links between education, business, industry and community through the integration of technical/vocational and generic/academic skills and knowledge.

### Strategies

- Work with stakeholders (e.g. ANTA, ASTF, NCVET, TDA, VETNETwork) to implement fundamental principles in Vocational Education and Training (e.g. flexible pathways, connectivity, multi-skilling).
- Support research and development on issues of national significance (e.g. VET in schools, VET professionalism, parity of status/recognition of VET).
- Identify, document and disseminate examples of good practice (e.g. cross-sectoral resourcing, innovative teaching, community based learning).

Figure 1

“grassroots leadership is required for reconciliation”

PRIORITIES FOR THE NEW MILLENNIUM

*Ms Susan Pascoe  
President, Australian College of Education*

Priorities, by definition, require us to rank our goals with some precision. They are historically situated and context specific. The priorities this Australian educator has set for the new Millennium are:

- achieve reconciliation
- maintain a culture of peace
- celebrate the past, shape the future
- improve educational outcomes
- establish professional teaching standards
- provide adequate school resources.

**Achieve reconciliation**

Our nation is deeply scarred by the occupation of an inhabited land by European settlers. The historic High Court decision of 1992 (the Mabo judgement) struck down the notion of *terra nullius* and decreed that the land was indeed inhabited by Indigenous peoples when Governor Arthur Phillip and his crew landed on 26 January 1788. The systematic dispossession of the land has left Indigenous Australians fringe dwellers in a place with deeply spiritual significance for them. I am sorry that our non-Indigenous forebears took the land by force and that successive colonial administrations and governments engaged in patronising and destructive social policies such as the removal of Indigenous children from their parents. It was a day of immense national achievement and pride on Sunday 28 May this year when hundreds of thousands of Australians walked across the Sydney Harbour Bridge in support of reconciliation. Follow up activities in other places have achieved comparable turnouts. Ordinary Australians are realising that grassroots leadership is required for reconciliation. The commitment of enough



individuals might lead to collective national action.

Schools have a critically important role to play as places and agents of reconciliation. Finding places in the curriculum for Indigenous perspectives; honestly recounting our past history and modelling inclusive behaviours all provide the basis for young people to move forward in this millennium with an acknowledgement of many of the ill-conceived practices of the past and a commitment to an inclusive Australia in the future.

### Maintain a culture of peace

The United Nations has designated the year 2000 as the International Year for the Culture of Peace. Significantly, 2000 is a year of great Jubilee in the Christian tradition and a year of the Golden Dragon in the Confucian tradition. Twenty-four hours of festivity that accompanied the advance of 1 January 2000 across the globe testified to the significance of the dawning of this period across national and cultural boundaries. Those places suffering from conflict and terror had few reasons to celebrate.

A group of Nobel laureates wrote a *Manifesto 2000* with the goal of presenting 100 million signatures to the United Nations General Assembly in September this year. The manifesto reads:

- Respect all life
- Reject violence
- Share with others
- Listen to understand
- Preserve the planet
- Rediscover solidarity.

The International Year for the Culture of Peace heralds the beginning of a Decade for the Culture of Peace. Australian schools, particularly in the post-war era, have been places of tolerance, diversity and inclusiveness. Community-based schools such as government and Catholic schools attract students from a variety of linguistic, cultural and socio-economic backgrounds. In schools students learn how to live together, to respect rules and to understand difference. Australia's social fabric has been

strengthened by the active engagement of her teachers to celebrate, not merely tolerate, multi-culturalism, and to understand, not fear, difference. In addition, schools model and teach pro-social behaviours from respecting the right of others to learn, to sharing space in the playground and rejecting bullying behaviours. Young people learn many of these attributes in their families. However, schools have an important role to play as not all families teach tolerance and inclusiveness — the values bedrock of a healthy democracy.

### “schools model and teach pro-social behaviours”

#### Celebrate the past and shape the future: the Centenary of Federation

In the year 2001 Australians celebrate the Centenary of Federation: one hundred years since six colonies decided to unite into one nation with a common sense of purpose and direction and a common constitution. The capacity of young Australians to understand the significance of this event was questioned by the then Keating Government in 1994. The Civics Expert Group was established to provide advice to Government on the state of civics and citizenship education in Australia. Ken Boston and I were part of that three-person group along with the chair, eminent Australian historian, Professor Stuart Macintyre. We found an almost thirty year gap in the systematic teaching of civics and citizenship education in Australia, and argued that a co-ordinated national response was called for to provide relevant materials for students and professional development for teachers. We argued that 'education for citizenship ranks with English and mathematics as a priority for school education, and that it is an essential component of a liberal education' (Civics Expert Group 1994, p. 57).

The report received multi-party support. Since then there has been a renaissance in the teaching of civics and citizenship education in Australia. It is very pleasing that in an era of

fiscal frugality, the Commonwealth Government in this year's budget set aside funding for the professional development of teachers in civics and citizenship education.

The Australian College of Education was a respondent to the initial inquiry and has supported initiatives in civics and citizenship education through its publications, forums and conferences. Next year, the national conference will be a significant event in the Centenary of Federation activities. The College will co-host a National Education Assembly, focusing on the contribution of education to nation-building.

## “a renaissance in the teaching of civics and citizenship education”

Lead-in activities this year include a competition for upper primary students, Our Nation — Our Stories, which invites them to consider issues such as:

- What does it mean to be an Australian?
- What people, events or inventions have helped shape our view of what it means to be an Australian?

Competition winners will present their performance or product to the Education Assembly in April 2001. In addition, discussions amongst educators will be held around the country, co-hosted by the College and the Australian Council for Educational Administration, to develop a Declaration from the profession. The Declaration will set out the professional commitments Australian educators make to the community they serve.

### Celebrate the past, shape the future: the Australian College of Education

The Australian College of Education itself was involved in an exercise to celebrate its forty years as a professional organisation in 1999, and to look to the future. The National Council has spent a good deal of time reflecting on the impact the College has had on the education

scene over the past forty years and its orientation for the future. Hard decisions were taken and the national office has been restructured and restaffed.

Members were surveyed, and new products and services introduced such as the annual year book and interactive website.

After a sustained period of reflection and discussion last year, the Council moved to position the College to become the voice of education in Australia. Unlike other key interest groups such as doctors or large businesses, there is no obvious voice for our mass, differentiated, dispersed profession. You will have noticed a perceptible increase in the media exposure given to the College, particularly in the past six months, and our willingness to present a view on current issues. For example, there was good coverage of the launch of the College's Inaugural Year Book on School Resourcing in national publications from *The Bulletin* to *The Australian*. The College has always seen itself as an honest broker in debate with a unique capacity to bring together all views and to provide a forum for rational discourse. In the past twelve months, the College has hosted forums on Indigenous education, professional teaching standards and school resourcing, with an emphasis on promoting debate and providing a forum for all voices.

And, finally, the College is moving to contribute significantly to discussions of teacher quality and education quality. If any word is set to become the education cliché of the year 2000, it is 'quality'. We should guard against this. Australian educators are at a point in history where the profession itself has the capacity and the will to define its ethics and standards and to monitor them. The College is actively promoting such initiatives, and sees itself as having a key role to play as an arbiter of professional teaching quality.

As part of its strategic planning in 1999, the Council identified what it believes to be the most critical issues facing education in Australia at present. We identified the participation and performance of Indigenous students in schooling, the promotion and identification of professional teaching standards, and the adequacy of school funding. We have moved to

engage the debate in all three areas as outlined below.

### Improve educational outcomes

Young Indigenous Australians have a compromised experience of schooling. Approximately 70 per cent of Year 3 Indigenous students are below the national literacy standard compared to approximately 30 per cent of other Year 3 Australian students (Masters and Forster, 1997). On average, Indigenous students are absent for about a day of schooling every week, compared to approximately three days every term for other Australian students. In addition, factors such as deafness, access to quality teaching, and the challenge of learning in what for many is a second language, all confound the educational experience of Indigenous young Australians.

### “promoting debate and providing a forum for all voices”

The College, together with the Department of Education, Training and Youth Affairs (DETYA) hosted a forum on Indigenous education in Alice Springs last year (ACE, 1999). Key community leaders, researchers and educators were brought together with policy-makers to plot the way forward. It was agreed that we have enough research and enough evidence of what works, and that what was needed from this point was commitment and political resolve to achieve better educational outcomes for Indigenous people. A co-ordinated inter-agency approach was accepted as the way forward. This has been written into the Commonwealth Government's National Indigenous English Literacy and Numeracy strategy, 2000–2004. The key elements of this strategy are:

- improving attendance rates
- overcoming hearing, health and nutrition problems
- providing, where possible, preschooling opportunities

- attracting good teachers to settings with concentrations of Indigenous students
- using the best teaching methods known through existing research
- measuring success and achieving accountability.

### “what is now needed is commitment and political resolve”

The College has committed itself to supporting initiatives to improve the outcomes of Indigenous students as part of its contribution to achieving reconciliation. An Indigenous educator has been co-opted to Council; a Working Party established to promote initiatives in the area; and ACE has been commissioned by DETYA to conduct the national IESIP Conference in November 2000.

Some of the other areas where Australian educators are currently probing ways to improve educational outcomes include:

- providing better pathways in the post-compulsory phase of schooling — including improved integration of vocational education and training courses into mainstream generalist post-compulsory courses
- preparing students for globalised, digitised workplaces — including the skilling of students and teachers in a range of information and communications technology applications
- applying research to practice — including the use of empirical findings from the school effectiveness movement and recent projects to improve literacy learning in the early years.

### Establish professional teaching standards

Why is it that Australian teachers do not currently set the standards for entry to the profession, determine the content of professional training programs, register teachers and take responsibility for the recognition and



reward of outstanding practice? Most educators agree that these are defining elements of a profession, but there is no sense of urgency for Australian educators to move in this direction. The path is littered with stalled attempts from the National Project on the Quality of Teaching and Learning to the Australian Teaching Council.

Are employers the guardians of quality in education? Currently it is they who register teachers and monitor their practice. Are universities the arbiter, as they currently set the courses for pre-service training and post-graduate study? Teachers' professional bodies have little or no say in these gate-keeping activities:

“deeper issues of teacher quality and professionalism require sustained support”

In February this year, the College joined with the Australian Association for Research in Education and the Australian Curriculum Studies Association to host a forum on professional teaching standards. All key players were invited, and we heard of a number of initiatives around the country to identify professional teaching standards and to reward them (ACE, 2000a). These initiatives are in their infancy, and will require further support to become embedded. The College in collaboration with other national groups is drafting a national discussion paper to develop a rationale for the establishment of professional teaching standards (see <http://www.austcolled.com.au/Dispaper.pdf>). It is important from the outset that classroom practitioners are involved in these activities, and professional bodies, researchers and employers all contribute to the discussion. The emerging teacher shortage is once again focusing attention on how we attract and retain quality entrants to the profession and develop career paths that are sufficiently differentiated and adequately remunerated to maintain a long-term career path for professionals.

While we need to be responsive to teacher supply and demand, the deeper issues of teacher quality and professionalism will require sustained, informed, co-ordinated support.

### Provide adequate school resources

The issue of school resourcing is back on the agenda. The Commonwealth Government's new schools policy and 'enrolment benchmark adjustment' have impacted on the provision of public education and its funding levels. In addition, recent comparative analysis from the Organisation for Economic Co-operation and Development (OECD) indicates that the Australian spending of 5.6 per cent of GDP on education is below the OECD average of 5.9 per cent. It is significant that Australians contribute 1.1 per cent from private sources and 4.5 per cent from government sources, while the OECD average is 0.7 per cent from private sources and 5.2 per cent from public sources. The increasing reliance on private contributions, at all levels of the education enterprise from kindergarten to higher education, raises questions of access and equity.

The College devoted its inaugural Year Book (ACE, 2000b) to the issue of school resourcing, and was delighted when Emeritus Professor Peter Karmel agreed to be the editor. A symposium was held in Canberra in June for contributors and respondents to the Year Book to discuss the issue of school resourcing to advance the debate. It was agreed that we need consensus on the core purposes of schooling and on questions such as how much does it take to well-educate a child. One of the dilemmas for educators is that we do not currently have a robust and sustained research capacity on matters such as the relationship between increased expenditure on education and improved outcomes in health. There is scope for further research to model the impact of different allocative mechanisms in funding, to explore the application of school effectiveness research to funding models, and to consider the social costs of quality schooling.

Notions of fairness (equity) underpin Australian democracy. At the heart of this notion is the view that citizens have a right to government services such as health, education, welfare and

justice on an equitable basis. If we are to advance the debate on school resourcing it has to have a strong empirical foundation. It would be timely for governments to conduct a capital and facilities audit similar to that undertaken as the foundation of the funding model of the Schools Commission in the 1970s.

## “significant infrastructure costs in tooling up schools”

Governments of all persuasions exhort educators to join with them in creating the 'knowledge nation'. It is not simply skill in the use of information and communications technologies that is required, but a capacity for problem-solving, teamwork, flexibility and intercultural understanding. There are significant infrastructure costs in tooling up schools, including the provision of adequate bandwidth for on-line communication, the purchase of hardware and software and the training of teachers. The resource implications are significant. In addition, during the past decade Australian schools have been urged to integrate vocational education and training opportunities for secondary students, to educate young people for pro-social behaviours and emotional resilience, and to provide instruction in core Asian languages. Even the 'bread and butter' work of educating students for strong literacy and numeracy skills has become more costly

with acknowledgement that all students can learn, given sufficient time and support. It is pleasing that governments such as the Commonwealth Government recognise this. However, the resource implications are significant. If education is both a public good and an individual right, then the debate on adequately resourcing schools must address the issue of the balance of public and private contributions to the cost of schooling.

### References

- AUSTRALIAN COLLEGE OF EDUCATION (1999) *Unicorn: Indigenous Education, National Imperatives, Partnerships and Action*, Vol. 25, No. 3, December 1999. Canberra: ACE.
- AUSTRALIAN COLLEGE OF EDUCATION (2000a) *Unicorn: Professional Teaching Standards: Issues, Challenges and Opportunities*, Vol. 26, No. 1, April 2000. Canberra: ACE.
- AUSTRALIAN COLLEGE OF EDUCATION (2000b) *College Year Book: School Resourcing: Models and Practices in Changing Times*, (Editor: Peter Karmel). Canberra: ACE.
- CIVICS EXPERT GROUP (1994) *Whereas the People...Civics and Citizenship Education*, Chair: Stuart Macintyre. Canberra: AGPS.
- COMMONWEALTH OF AUSTRALIA (1999) *National Indigenous English Literacy and Numeracy Strategy 2000–2004*. Canberra: DETYA.
- MASTERS, G. & FORSTER, M. (1997), *Mapping Literacy Achievements. Results of the 1996 National Schools English Literacy Survey*, Canberra: DETYA.
- UNESCO (2000), *Manifesto 2000*. Paris: UNESCO.

# PERSONAL CAPACITY, SOCIAL COMPETENCE AND LEARNING TOGETHER

“most of the workers in a knowledge economy are knowledge workers”

“the entire concept of the education system is being challenged”

*Professor Kai-ming Cheng*  
*Professor of Education and Pro-Vice-Chancellor at the University of Hong Kong*  
*Visiting Professor of Education at the Harvard Graduate School of Education*

## Introduction: changes and challenges

There are tides of educational reform all over the world. Education systems in Asia and the Pacific are undergoing serious re-examination and spectacular overhauls are emerging. This paper delineates changes in the broader social context, and how such changes challenge our education systems. Special attention is paid to the social aspects of learning and personal development, and how education may be viewed differently from those perspectives.

The education reform themes of ‘decline’ and ‘quality’ of the 1980s and 1990s are now being overtaken by ‘learning’. There are two dimensions to this thematic change. First, not only are we concerned with *how well* students learn, but also with *what* they have learnt and should learn. Secondly, if *learning* is the focus of attention, then *education* and *schools* are no longer the starting points.

I propose to outline four major dimensions of change — the economy, the workplace, the society, and conditions for learning — and discuss the implications for education and learning.

### 1. The knowledge economy

Most of the countries in the region have over half of their economic output in the tertiary sector. Countries with lower output have also shown rapid growth in the tertiary sector in recent decades. Although we cannot simply equate the tertiary sector with a knowledge economy, it is a very good gauge of the growth of a knowledge-based economy. Even in the

industrial sector, the majority of operations are increasingly knowledge-based.

Societies in almost all regions, perhaps with the exception of Africa, are moving to some degree towards a knowledge economy.

The significance of such an economic change vis-à-vis education is more obvious when we consider the changed pattern of the workforce. In most of the developed economies, the number of 'white-collar' workers exceeds that of 'blue-collar' workers.

Most of the workers in a knowledge economy need knowledge. They are knowledge workers. A sizeable proportion of them are intellectuals.

Hence, what we are facing is not just *any* regular change in the economy. It is change towards an economy that is totally different from the typical industrial economy.

### **Challenges to education**

The challenge to education is overwhelming. The entire concept of the education system, which mirrors the industrial manufacturing process, is being challenged. Existing education systems have had a relatively short history compared with the long history of humankind. Current school systems emerged only in the mid-nineteenth century as national government-regulated endeavours. Under these systems, students are 'educated' by a social mechanism. In a way, students are regarded as raw material and processed *en masse* in places called schools, and are constantly scrutinised by quality-control mechanisms, such that some are selected for further processing and refinement, others are rejected as 'wastage' or second-class products.

In a knowledge society, where knowledge 'qualifications' no longer provide a licence for social advancement, where people are not classified according to the knowledge they possess, and where most people are expected to possess knowledge to some extent, what is the role of schools?

The entire notion of screening, selection and sifting is obsolete. If the scope for cheap labour is continually shrinking, what is the fate of those who have 'failed' in schools?

### **Challenges to learning**

If there is no place for school 'failures', then the

school system should no longer be producing such 'failures'. This statement sounds ironical to educational planners, as their specific task has been to plan educational 'products' with different degrees of 'knowledge', labelled by their academic qualifications (or lack of them), in order to match the different tiers of manpower needs in the economy.

The statement is also foreign to schools. If schools are not meant to discriminate between the good students and the poor, what then is the real function of schools? Schools are now reminded of their basic mission: *learning*.

**“the school system  
should no longer  
be producing such  
‘failures’”**

But if schools restore learning as their primary mission, then we need to rethink the structure of schools. For example, if it is learning rather than qualification and certification that is our main concern, what have we given our students in terms of learning? We all realise that students need to learn a lot in their early years, but only the quantifiable and examinable are treasured. Who would play God and determine which children should be regarded as failures and discontinued from learning?

In a knowledge society, where everybody is expected to have knowledge, even for survival, everybody deserves the right to learning. This is something new on the agenda of many governments.

## **2. The changed workplace**

A number of characteristics are already obvious in today's workplace.

First, not only are workers expected to have knowledge, but they are also expected to be capable of constantly adapting to new areas of knowledge in their work.

Secondly, organisations are constantly restructured, in order to cater for ever-changing emphases, markets, clients, technologies and business concepts. Clear divisions of labour,

well-defined hierarchies and stable structures (all crucial attributes of organisational success in the industrial society) have become negative elements for a vibrant organisation in the knowledge society. Workers have to expect constant changes of position, and changes in the nature of work and in work relations, even within the same organisation.

Thirdly, there is a high level of job mobility and occupational change.

—● “there is training  
for specialised  
skills, not training  
of specialised  
persons”

### **Challenges to education**

The challenge to education is essential. Although tasks and projects require specialised knowledge and skills, the personnel are increasingly de-specialised. More and more, people are expected to work across knowledge borders and to undertake ongoing self-education to meet changing work demands. Workers need to be different specialists at different times in their careers.

The notion of training specialised manpower is being challenged. There is training for specialised skills, not training of specialised persons.

This poses a further challenge, if not crisis, for the conventional notions of vocational education. Typical vocational education is designed according to the needs of specific trades, at times even according to job descriptions and skills specifications. The idea has been to prepare young people with skills that would enable them to join a certain occupational rank. They are trained to be ‘qualified manpower’, and are then employed in the appropriate area.

While skills training is still necessary and sometimes essential, it is not always directed towards a particular occupation or ‘vocation’. The duration of skills training is relatively shortened, often with a large component of self-

learning. The development of information technology has also reduced the need for mere knowledge transmission in skills training, and has given more emphasis to face-to-face imparting of practical experience.

### **Challenges to learning**

These changes in the workplace have imposed unprecedented challenges on the entire notion of learning. Until now, young people’s learning has taken place within the school system, which reflects production in the industrial society.

In the industrial era, the school system works like a factory with a long production line. Students, like raw materials, are fed through one end of the production line, processed through the same procedures at the same pace and with uniform expected outcomes, and scrutinised and screened at different junctures of the processing as a matter of quality control. Students of different ‘calibre’ are therefore distilled through the process.

In such a system, students necessarily undergo the same teaching with the same curriculum. They have no control over their own learning path or learning pace, and are not expected to follow individual learning paths according to their differing needs.

“we must assume  
that everyone is  
capable of lifelong  
learning” —●

The net effect of such a system is that only those who fit the required learning path and meet the expected outcomes are seen to be able to learn. Many who are seen as failures in the system are simply those who did not fit the uniform production process.

This concept is contrary to the basic assumptions of lifelong learning in a knowledge society. When there is a need for people to acquire new knowledge continuously throughout their lives, we must assume that everyone is *capable* of lifelong learning. There is no permanent failure in learning. In a knowledge society, every citizen has the right to lifelong



learning, and has the right to expect the society to provide such learning opportunities.

Individuals should also have the right to choose the direction and pace of their own learning. When individuals are no longer prepared for specific occupations, and when they have to face a variety of specialisations in their working lives, it is not meaningful for all to follow the same curriculum with the same expectations. Such uniformity might still have some foundation at a basic education level, where one could argue that all citizens should be equipped with the same baseline competency and literacy.

—● “today’s organisations are increasingly flat (fewer layers), light (less bureaucracy) and loose (fluid structures)”

The argument for individualised learning is further reinforced by the fact that individuals have different intelligence potential, and very different paces of learning.

### 3. The connected society

Society is more connected than ever. Few have considered that notion in the context of education. Connectivity is the catchword. However, connectivity is nothing new to human society. It used to be trails, roads, rivers and canals that connected villages and towns together. Only the connected were prosperous. Then railways, highways, airlines and telephones: again, the connected were economically and socially privileged. Now, it is connectivity in cyberspace. The recent, unanticipated economic development in India and some Latin American countries has demonstrated the power of connectivity in the Internet era.

Connectivity has also changed social organisations. Today’s organisations are increasingly flat (with fewer layers), light (with less bureaucracy) and loose (with fluid structures). Networks have replaced formal and

stable organisations in many fields. The development of information and communication technologies has also prompted closer human relations. Communications nowadays easily transcend hierarchies and bureaucracies and have contributed to the further reduction of organisational barriers. Human interaction within a working organisation is now more intense — contrary to the belief that technologies would supplant human interaction.

Because of that, people will experience not only more areas of knowledge in their working lives, but also more social networks and communities than those in an industrial society. When people change their employment, job skills, occupations and careers, they encounter different sectors of the community. Whereas in a typical industrial society, one stays basically in the same profession and hence the same social circles.

Social mobility is now intensified. There is more frequent change of jobs and occupations — horizontal mobility. There is also a higher degree of vertical social mobility. Like knowledge, which becomes obsolete very easily and quickly, success is less easily sustainable. People are experiencing more frequent ups and downs in their lives. To a pessimist, there is no permanent success. To an optimist, there is no permanent failure: every day could turn a new page.

“to an optimist, there is no permanent failure” —●

### Challenges to education

Education must face the high demands on human factors and social interaction in a knowledge society. Conventionally, the expectations of a school system have been knowledge and skills. Values, morals, conscience and spirit used to be the concern of only schools with religious missions. However, such non-cognitive aspects are increasingly important in preparing our youth for the future.

When organisations were structured according to a strict division of labour and people were



highly specialised, knowledge and skills were indeed all that counted. It was the specialised knowledge or skill, slotted into a designated position within an organisation, that contributed to the overall success of the organisation. But that was in the industrial era.

In a modern organisation, which is flat, light and loose, people have become of prime importance. First, they need to be people who can move from one body of knowledge to another and from one set of skills to another, with relative ease. What is important is not how much these people have learnt, but how much they are capable of learning and how much knowledge they can create. It is the human capacity that is now the central concern.

—● “depriving a child of social experience is as harmful and irresponsible as denying them literacy and numeracy”

Secondly, because of the loose structure and diminishing bureaucratic barriers, workers must interact more vigorously with colleagues in other parts of the organisation and/or other occupations or professions. There is an increase in attention to social competency or values education (Gardner et al. 2000) or ‘character education’ (Lockwood 1997).

Most school systems are too preoccupied by academic subject-based studies and classroom learning. The predominance of public examinations in schools not only conflicts with the theoretical notion of all-round education, but also functionally deprives young people of more comprehensive social experiences. Depriving a child of social experience is as harmful and irresponsible as denying them literacy and numeracy.

If that is accepted, then schools must be seen as social communities rather than as places of mere academic study. School lives should leave more room for activities outside classrooms

and outside campuses, because such activities provide learning experiences as important as academic studies. School leadership must therefore focus not only on organising the teaching of the formal curriculum, but also on constructing the school as a progressive social community.

Schools should no longer be proud of their isolation from society. Schools should not be seen as protecting students from pollution by society. Rather, schools need to be closely associated with the community, so that students have real life experiences as early as appropriate.

### **Challenges to learning**

Social learning experiences are rather different from academic learning. If learning in the social realm is to become an essential part of students’ lives, then we must introduce new challenges pertinent to such learning.

First, in order to make room for learning experiences other than academic studies, there has to be a considerable reduction in the time spent on academic studies.

Secondly, teachers must be prepared for a changed school life. Unlike academic studies, where teachers mostly assume an authoritative role in knowledge transmission, students’ social learning experiences must be handled differently by teachers. While most academic studies still maintain a ‘right or wrong’ (and hence ‘pass or fail’) attitude towards learning, such notions may not be appropriate for social learning experiences. Although social learning activities can be planned, the learning that takes place in such activities cannot be planned.

Thirdly, social learning experiences are necessarily uneven because of the diversity and disparity among students’ families. Students in one family are naturally exposed to different social experiences from those available in other families. Broader approaches need to be developed to tackle the disparity of social experience.

### **4. Changed conditions for learning**

Fundamental to education today are the changed conditions of learning. Developments



in information technology have changed the interrelationship of individuals and knowledge. Crucial to such change is access to information. Access to information is now individualised, popularised and equalised.

“access to information is now individualised, popularised and equalised”

Information, formal knowledge in particular, used to be accessible only in formal institutions such as schools, libraries and museums. The invention of radio and television changed the situation slightly, except that the learner still had little choice over what was learnt. Personal computers, together with the development of the World Wide Web, have made learning an individualised activity.

Access to information is now popularised. Computers, once seen as expensive items, have become a household necessity. This is true not only in most developed countries, but also in many urban centres in developing countries.

Therefore, access to information is also equalised. It was assumed that information technology development would widen the gap between the ‘haves’ and the ‘have nots’. This assumption was perhaps based on the fact that computers are expensive machines. However, compared with other means of tackling inequality, the diffusion of information technologies to families has proved to be the least expensive and most effective method of overcoming social disparity.

### **Challenges to teachers**

The change in access to information has posed a fundamental challenge to education. If information technology is further developed, such that information is readily available to individuals through personal means, what then is the role of teachers and the school?

One could argue that such a question is conceptually flawed, because teachers were never intended to be mere purveyors of

information. However, in reality, particularly in the Asian context, teaching in classrooms is still very much a mere transmission of information. What happens to teachers when the pure transmission of information is no longer a necessary task?

Teachers would then restore their dignified role of being a leader in learning and a sage in the learning community (school). Raw information is not yet useful knowledge. Teachers have the undeniable role of helping students in selecting, analysing and synthesising available information, and facilitating students in the application and creation of knowledge — developing students’ capacity to generate wisdom.

Technologies will inevitably take over all the lower-level learning activities. If teachers identify themselves only with these activities, they will be replaced.

“teachers would restore their dignified role of being a leader in learning and a sage in the learning community”

### **Challenges to the curriculum**

If institutional regimes for learning are weakened, then one may need to rethink the entire enterprise of ‘curriculum’. The notion of a curriculum assumes that learning could and should be planned. To some extent, it also assumes that what is to be learnt has to be taught, and hence learning needs to be engineered.

It is not certain whether or not such assumptions are totally valid. There are undoubtedly areas of learning that must be planned and must take place sequentially, such as learning mathematics, or playing the violin. However, most of our knowledge is not learnt in a planned manner.

First, learning through social experience cannot be engineered, and cannot be taught and assessed, as is the case with academic subjects.

Secondly, even with academic subjects, for example physics, is it really necessary to learn topics (such as heat, light and sound) in such an in-depth manner at such an age in such a sequence? Thirdly, even with very disciplined subjects such as mathematics, is what students learn and how they learn necessarily what and how they should learn? If schools and teachers are relieved from the tedious task of transmitting information, is the curriculum liberating our students or limiting them?

—●—  
“learning  
through social  
experience cannot  
be engineered”

### **Learning as community activity**

Recent theories of learning have emphasised the social context in which learning takes place (Philips & Soltis 1998, pp. 62–64). Learning is no longer seen purely as an activity occurring in isolated brain cells. Learning is a human activity that takes place in social environments. The fact that learning is individualised does not mean that learning should take place in personal isolation. Learning is basically a community activity.

Hence, learning in a knowledge society has to be perceived dialectically. We are facing the dual challenge of how to make full use of individualised learning facilities and how to foster a learning community to facilitate individualised learning.

If we accept this notion of learning, then schools must be perceived as learning communities. The entire focus of school leadership needs to be directed towards constructing such a community. Students must perceive themselves as team members in a learning community, and be prepared to learn with others. Teachers are learning partners with students. One of their prime tasks is to make sure that students learn with others.

### **Learning together**

In the context of the above discussions, I would like to re-interpret the title of the conference:

‘Learning Together’. It may take on several themes, particularly in relations to schools.

#### *Theme 1: Lifelong learning for all (vis-à-vis ‘schooling’)*

The notion of lifelong learning entails a belief that there is no permanent failure in learning. Everyone could be and should be lifelong learners. It also entails an appreciation of the diversity of individual learning paths. Everyone should be allowed their preferred learning path, and in their particular areas of strength. In that context, there should be a new ideology about equality in education, such that disparity in lifelong learning opportunities, in the broad sense of the term, should be minimised as a matter of policy.

#### *Theme 2: Developing learning capacity (vis-à-vis ‘subject learning’)*

Given the need for diverse learning paths and individualised learning modes, learning in schools must share a common goal: learning to learn, and learning to learn on a lifelong basis. Instead of regarding students as receptacles of knowledge, education should aim to cultivate students’ capacity to learn. In order that no-one will be deprived of a decent life, education must ensure that all citizens achieve the baseline capacity of learning for life.

#### *Theme 3: Learning to live together (vis-à-vis schools for ‘studies’)*

School is not only a place for academic studies. It is also a place for experiencing the life of a community. It is a place for developing social competence or social capacity, a place for learning how to live with people from different backgrounds and of different characters. In that context, schools must be developed as communities for social experience.

#### *Theme 4: Learning to learn together (vis-à-vis isolated minds)*

Bearing in mind that learning is also a social activity, schools, the curriculum and teaching must be structured so that learning takes place in a community. Students are comrades in learning. Teachers are partners in learning with students. Students should learn to learn in a team. Schools, classes and groups need to be utilised as essential vehicles for learning, rather

than necessary limitations due to resources shortages.

#### More themes

The conference title could accommodate many more themes about learning in a knowledge society. Some other themes include the following:

- school-community partnership, where the school and the community learn together;
- school-family partnership, where educators and parents learn together;
- formal-non-formal-informal alliance, such that the society is a coherent environment for learning;
- private-public coalitions, such that differences in funding modes do not inhibit institutional collaboration;
- international collaboration.

#### Concluding remarks

I would like to conclude this paper by asking several questions:

Society is undergoing rapid and tremendous change; our students are facing a changing society. *Are we educators prepared for change?*

When information and knowledge are no longer the privilege of the teacher; when students can move faster than teachers in acquiring information: *Are we educators glad to see students as the masters of learning?*

When students can move faster than teachers in acquiring information; when students are proved more innovative and creative than teachers: *Are we educators ready to play a new role?*

When the society is less structured, lighter and flatter; when social mobility is so great and so quick: *What should teacher-student relations become?*

After all, learning is a human instinct; the aim of education is to expand the scope of learning; education must increase students' capacity for learning: *Is that still our belief?*

After all, if students mostly learn on their own; if students are innovative and creative; if students move faster than teachers: *Are we not proud of our students?*

After all, if the nitty-gritty lecturing, examining, marking can be left to technologies; if we can maintain close interaction with students on more social matters: *Isn't that an educator's dream come true?*

#### References

BLAIR, T. (1999) Romanes Lecture (2 December 1999). <http://www.number-10.gov.uk/news.asp?NewsId=416&SectionId=32>

GARDNER, R., CAIRNS, L., LAWTON, D. (eds) (2000) *Education for Values: Morals, Ethics and Citizenship in Contemporary Teaching*. London: Kegan Paul.

LOCKWOOD, A.T. (1997) *Character Education: Controversy and Consensus*. Thousand Oaks: Sage.

MINISTRY OF EDUCATION, TAIWAN (1998) *Towards a Lifelong Learning Society*.

PHILIPS, D.C. & SOLTIS, J.F. (1998) *Perspectives on Learning*. New York: Teachers College.

WORLD BANK (2000) *World Development Report, 2000*. Washington DC: World Bank.

# THE QUEST FOR A NEW LEARNING PARADIGM

“could learning stand alone, beyond the needs of economic growth?”

“vocational identities emerge as the central tenet of autonomy”

*Professor Roberto Carneiro  
Member, UNESCO International Commission  
on Education for the 21st Century*

**There is no question that there are deep analogies between mindlike artefacts and human minds. There are also deep disanalogies. The deepest of these, we think, is the functional one: how thought is shaped to serve our intentions and the settings in which we are compelled to operate as culture-reliant human beings.**

**Bruner, Goodnow and Austin (1956) *A Study of Thinking***

This paper begins with the recognition that learning occupies a central role in modern societies. Learning is heralded as the key driver of comprehensive development and sustainability.

Traditional human capital has now been reborn under the guise of knowledge management theories. In other words, economic priorities still dominate the education landscape. The value of knowledge is closely tied to that of competencies. Thus, we propose a list of eight domains of inquiry concerning value creation through knowledge production and management.

Could it be different under the emerging learning paradigm? Could learning stand alone, beyond the needs of economic growth?

Vocational identities emerge as the central tenet of autonomy and self-determination. Identity-enhancing organisations and community learning combine with a personal search for meaning through work and activity. We further propose a breakdown of eight stages to arrive at conscious evolution.

Flexibility calls for adaptive learning capabilities. However, generative learning, vision and managing creative tensions are the levers of seminality. Only seminal learning skills can offer

cultural advancement and feed into the formation of semantic memory.

Finally, this paper turns to three new knowledge archetypes: Chaos, Complexity, Consilience. These concepts can help trace breakthrough developments amidst order and disorder. The goal of more equitable distribution of knowledge in the world leads us to recommend five mutations on the way to achieving inclusiveness.

The full paper, on the ACE web site, then deals with the design of a Big Picture, addressing the future of learning. Possible scenarios are tracked through the systemic interplay of three key variables: paradigm shifts, delivery modes, and driving forces. Time undergoes a three-dimensional approach: past, present, future. A transitional perception of new learning trajectories begins with a Clockwork Orange state that is slowly evolving to a Knowledge Age. The ultimate realisation of the unity and equity of learning generates the Learning Society.

“knowledge growth must be accompanied by a sense of global ethics”

The fundamental pitfall is *hubris* — fateful human arrogance. Thus, knowledge growth must be accompanied by better learning capabilities and a sense of global ethics. Greater knowledge interdependency, or the dream of a global learning village, is contingent on our ability to Learn to Live Together.

Learning throughout life requires a new momentum in nurturing true learning cultures and proactive metacognitive competencies. The paper alludes to four policy directions, and specifically to the challenge of putting educators at the forefront of the learning society. Schools are organisationally committed to enhanced teacher professionalism fostering faculty learning and robust learning habits.

Education as a Right seeks coupling with

Learning as a Duty, to sustain a Social Contract for the New Millennium. Learning and our foundation institutions of sociality are summoned to take full advantage of the human propensity to engage in long-term contracts that evolve, both by culture and by democratic consent, into moral precepts and implicit social laws.

“education as a right seeks coupling with learning as a duty”

Introduction

Seldom has humanity shared such a deep sense of urgency. Against a legacy of notable progress we shoulder a growing burden made up of issues that vex humanity daily — ethnic conflict, warfare, endemic poverty, environmental depletion, plague-stricken continents, organised crime, anomic conduct at the heart of modern cities. But also, we take common pride in the advancement of science and technology; progress in human rights, freedom and democracy; new wealth creation paradigms; extended lifespan. Hence, the windows of opportunity appear to be wide open.

Paradoxically, though, people feel increasingly wedged into a maze of global anxiety. The plight of suffering fellow-citizens of the world occupies ever-increasing proportions of our daily news. Perils facing global governance reinforce the overall disbelief in politics. Volatility in the economy and in capital markets generates widespread uncertainty. The wholesale risk society is marked by powerful jolts. It exercises intractable pressures on our daily lives.

With society profoundly split on the appropriate policy remedies or the best societal directions, one potent idea appears to bridge disparate views. Learning is recognised as the key attribute of developed communities and individuals; likewise, education is the unique provider for sustainable human prosperity.

Everything operates as if the perfectibilist principle has regained confidence: however



uncertain and perilous the context, the quality of human life and the limits of human comprehension can undergo indefinite improvement.

In a knowledge-driven world, where the economy itself has turned into an ecogony, human intelligence inequities and differential opportunities to learn establish the fundamental divide between peoples and countries. Our beleaguered world is a showcase of fierce knowledge competitions. Proprietary knowledge soars in value.

—● “the fate of cultures remains ultimately associated with their learning and evolving capabilities”

Is it possible to single out one domain of human endeavour that escapes this paradigm? Is economic growth separable from human development and from the accumulation of intangible assets? Will technology not subside into incremental upgrades — from generation X to generation X + 1 — unless it becomes more learner-friendly? Is it not that the fate of cultures remains ultimately associated with their learning and evolving capabilities? Can social institutions — as corporate organisations — succeed in assimilating advanced adaptive and generative learning functions?

Our new agenda is fraught with *learning conditionalities*.

The generation and sustainability of learning communities, learning cities, learning governments, learning organisations, lifelong learning individuals and ever-learning schools constitute overriding challenges in the wake of the new millennium.

Knowledge and learning have only just begun to operate together. It is expected that they will combine even further to determine our common predicament.

## Human capital and knowledge management — the dominion of economic thinking

That the human capital discourse has acquired a second momentum is in itself significant. The rise of a knowledge-driven economy, and the concomitant premium allotted to intangible assets, have stretched the debate on education and training; these institutions remain the single major source of human capital formation and of knowledge production and dissemination in our global age.

Never before have our developed societies been grounded in such high levels of educational attendance. Ironically, it is also fair to note that seldom in history have we witnessed such paramount signs of dissatisfaction with the outcomes of our educational systems. What's going wrong?

Economic priorities have tended to subsume both the education and learning enterprises and their internal fabric during most of the twentieth century.

Human capital (or its post-modern surrogate concept: 'knowledge management') is the mighty expression of that utilitarian approach. The economics of education has supplied most of the rationale for the ambitious reforms that swept our educational systems throughout most of this century. Some prominent international organisations have championed the new debate on human capital — see OECD (1998), *Human Capital Investment — An International Comparison*.

Hence, the upsurge of knowledge as a key production factor in the new economic lexicon has contributed to 'harden' what was always regarded as a most relevant asset both to society and to the corporate world. As a consequence, knowledge theory underpins a feverish period of creative enquiry: Where and how is it produced? How best can it be disseminated? How can we characterise the most favourable nurturing environments? Which are the key factors warranting timely application and market exploitation of new knowledge? What are the enablers to convert knowledge into problem-solving competencies and skills?

The final question is not just an abstract exercise for the delectation of intellectuals. On the contrary, the value of knowledge is, not surprisingly, closely tied to that of competencies. *Knowing* is a necessary condition, but only *knowing how* provides the necessary complement required by an industrious and promethean society.

The UNESCO Commission on Education for the 21st Century associates this trend with the vibrant demand for higher skills at all levels:

***Instead of requiring a skill, which they see as still too narrowly linked to the idea of practical know-how, employers are seeking competence, a mix, specific to each individual, of skill in the strict sense of the term, acquired through technical and vocational training, of social behaviour, of an aptitude for teamwork, and of initiative and a readiness to take risks.***

In the utilitarian legacy of our current problem-solving and innovation-driven society, the overriding criterion for knowledge assessment is value creation. From this perspective, knowledge production and management address a host of complex concerns, otherwise alien to the time-honoured traditions of the education mill. The following areas currently being explored are worth mentioning:

- accessing existing knowledge and appropriating critical flows of new knowledge (stock and flow management);
- developing objective indicators to measure the impacts of knowledge on wealth creation;
- discerning how information and communication technologies influence the formation and spread of new knowledge
- managing the working triangle of knowledge processing and circulation: Education, R&D, Innovation
- measuring and accrediting non-formally acquired competencies (work-related skills)
- fine-tuning learning and un-learning strategies — customised for the purpose of balancing active vs inert knowledge
- relating personal and vocational identities to alternative knowledge paths

- balancing adaptive and generative learning.

This list adds far more to the research agenda on knowledge, and its social and individual functions, than just paying tribute to new economy hype. Let us take the last two points, for instance.

### Nurturing vocational identities

Who am I? What are my core competencies? Do I 'own' proprietary knowledge? Regardless of where and how I work, is there continuity in my professional career? Where do I seek new learning experiments? Am I able to formulate a knowledge ambition? Do I understand the social networks that add value to my knowledge pool? Have I a strategy to bolster my working self? What traits do I value as a lifelong learner?

Vaulting volatility marks our working context. The market puts a premium on multicompetencies and mobility. The spread of tele- and e-work relies upon novel self-management competencies. Likewise, the central tenet of autonomy and self-determination draws upon the critical issue of personal and vocational identity.

These questions help us to understand how formidable the task of charting a fully fledged vocational identity can be. Unless organisations are identity enhancers, they will struggle to find the effective path toward collective knowledge and community learning.

Giving credence to this pursuit, it is now possible to devise a theory on the emergence of vocational identities, a sort of hybrid — homo sapiens et faber. Each human repertory at stake would necessarily include some, or all, of the following features, with allowance for different combination patterns (each particular combination reveals a specific stage in a developing vocational self):

- a knowledge base (the cognitive genome)
- a portfolio of competencies
- a preference for learning strategies
- a discernible path towards the strengthening of identity (construction of self)
- a foundation of emotional stability and of self-esteem



- a set of strategies to enhance personal assets
- a commitment to both the vision and priorities of the relevant organisations, regarded as learning opportunities
- a conscious evolution — including the social dimensions of identity formation.

Consciousness, brain research findings conclude, revolves around intricate mechanisms of knowledge processing and selection upon value, carried out in the two components of our forebrain: the limbic system and the cerebral cortex. Purposeful conduct recalls the assistance of semantic memory, motivation and awareness.

“in the absence of consciousness and vocational identity, learning lacks purpose”

Conscious evolution sets the stage for autonomy and meaning in the process of vocational identity formation. Placed at the summit of a long personal evolutionary chain, it stems from a robust landscape of consciousness grappling with the deepest, most intractable dilemmas of vocation and identity, and grows increasingly wary of shallow activism.

In the absence of consciousness and vocational identity, learning lacks purpose, work is only remotely associated with personal development, and the drive to learn is erratic.

Intent is the direct consequence of vocational identity. Professional fulfilment is its main outcome.

### Adaptive and generative learning

New economy and constant adaptability are increasingly synonyms.

Ever shorter creative destruction cycles are compressing the time-length of competitive advantages resulting from innovation. The Schumpeterian description of business cycles applied to the Internet age sets the background

for a high pace of productivity gains, thriving in extreme and inhospitable competition. Instancy is at the cutting edge of new knowledge application and of unprecedented demands on the human ingenuity to adapt. The buzz word in tech-savvy communities is ‘time to market’: that is to say, the speed at which ideas are transferred into business models, the readiness to apply research outcomes and new knowledge in corporate innovation.

In this unstable landscape, new learning theories often surrender to conjunctural flexibility. This discourse is emphatically praised by prevailing views on learning organisations.

However, in our increasingly unpredictable, dynamic and blurred world, it is no longer possible to rely on someone who can ‘figure it all out at the top’. Empowering the individual learner and agent of change becomes the challenge. Flexibility and generativity at both the institutional and individual levels become ever more critical.

Senge (1992) spells it out in a neat formulation:

***The prevailing view of learning organisations emphasises increased adaptability ... But increasing adaptiveness is only the first stage in moving toward learning organisations. The impulse to learn in children goes deeper than desires to respond and adapt more effectively to environmental change. The impulse to learn, at its heart, is an impulse to be generative, to expand our capability. This is why leading corporations are focusing on generative learning, which is about creating, as well as adaptive learning, which is about coping ...***

***Generative learning, unlike adaptive learning, requires new ways of looking at the world ...***

This is not ornately composed prose for the internal consumption of a chosen few.

Human beings have been designed for learning. Children come fully equipped with an unassailable drive to explore and experiment rather than conservatively to avoid mistakes. Conversely, our primary institutions of education have been designed to teach and to

control. The same reasoning applies to our prevailing systems of management, which are quite frequently eager to reward mediocre obedience and rote conformity to norms.

Survival instincts are often commensurate with adaptive learning capabilities: the reaction to external stimuli, dealing with threats and behaving in accordance with standards of flexibility.

The visionary person, but also one who remains committed to effective change, looks beyond adaptability. Creative tension — measured by the gap between vision and current reality — acts on expanding capabilities, devises ways to encapsulate strong inference, and addresses multiple competing hypotheses.

The best blend of adaptive and generative learning remains a matter of scholarly dispute. Adaptive skills are useful in a context of constant but continuous or incremental change; generative capacities define leaders in their response to radical innovation and systems depart swiftly from notorious disequilibrium in search of a new state of equilibrium.

In any case, one outcome is evident. If our schools are to evolve into genuine learning organisations, rote adaptability should not outstrip generative learning concerns. The comprehensibility of a multidimensional universe and the skills to unravel complex systems are contingent on a fresh mindset, one that remains open to discontinuous reasoning and prepared to welcome quantum leaps toward discovery.

Creative instead of merely adaptive learning demands a greater investment in **seminality**. Valuing ideas that establish new paradigms is the lever to bypass the binary instinct of the human machine (Claude Lévi-Strauss). Seminal patterns of thought will tend to bypass linear reasoning; they will always prefer alternative thinking or non-standard approaches when addressing complexity or the unexpected.

Seminality creates **Meme** — units of meaning nurturing the ‘universals of culture’ (George Murdock) are listed in detail in a monumental categorisation. These, in turn, are critical to the formation of semantic memory — the lasting patterns serving as anchors to interpretation and enhancers of meaning.

“switching from the industrial mode of teaching to learning-friendly schools will require a lot more than incremental change”

For centuries, education thrived on an industrial paradigm. Learning, in turn, appeals to a service-minded strategy designed to maximise knowledge acquisition.

Switching from the industrial mode of teaching to learning-friendly schools and institutions will require a lot more than the customary resolve to produce simple or incremental change.

Figure 1

<b>ADAPTIVE LEARNING</b>	<b>GENERATIVE LEARNING</b>
<p><i>Responding to environmental change</i></p> <p><i>Coping with threats</i></p> <p><i>Reacting to symptoms</i></p> <p><i>Capturing trends and incorporating early signs of change</i></p> <p><i>Eliciting flexibility as prime value</i></p>	<p><i>Expanding capabilities</i></p> <p><i>Enhancing creativity</i></p> <p><i>New ways of looking at the environment</i></p> <p><i>Addressing underlying causes</i></p> <p><i>Thinking differently</i></p> <p><i>Anticipating futures</i></p>

## New knowledge paradigms

While recognising the omnipresence of economic considerations surrounding knowledge management theories, one cannot ignore some potent signs of disquietude. A deep current in the quest for a paradigm change is now commonplace: drifting away from dispensed teaching in large educational machineries; giving way to distributed and demand-driven 'action learning'; and resorting to decentralised networks of institutions.

### “three archetypes of new knowledge: Chaos, Complexity, Consilience”

Three archetypes of new knowledge will shape the next stages in knowledge theories. They form a web of three 'C's: Chaos, Complexity, Consilience. Let us briefly allude to them as prime sources of new thinking.

'Newton's mathematic organisation of the middle world — from molecules to stars — reveals serious deficiencies in a number of respects.' This is how Van Doren introduces chaos analysis as a high sensitivity approach to slight variations in initial states. Chaos theory is fraught with a new lexicon: fractals, strange attractors, Mandelbrot sets, multibody systems. This new science is equipped to deal with a world of a subtle God — even a careless God

— not a malicious one, in Einstein's own words. Disorder is not necessarily contrary to the attainment of a new order. Quite often the former acts as a prerequisite to the latter.

Complex thinking reclaims a new canon in thinking and knowledge management. It springs from tentative notions to explain how complexity can follow non-linear and discontinuous paths to arrive at higher orders. This would be the case with Krugman's punctuated equilibrium theories of self-organising systems and with Kaufman's NK models in molecular and evolutionary biology. Complexity places itself at the "edge of chaos", the thin borderline between perfect internal order and total disorder to trace breakthrough developments.

Consilience is advocated by Edward Wilson, a renowned scientist who revives William Whewell's 'jumping together' of knowledge by the linking of facts and fact-based theory across disciplines to create a common ground of explanation. In line with the Ionian Enchantment of Ancient Greece, consilience seeks the key to the unity of knowledge; taking on board the fundamental premise that the ongoing fragmentation of knowledge and resulting chaos in philosophy are not reflections of the real world, but artefacts of scholarship. Consilience resumes a positivistic faith in scientific knowledge to add meaning and explanatory power to human intervention in the surrounding world.

A search into the realm of this evolving universe allows us to discern five paradigmatic mutations. Among other key features, this structural change aims at crossing the Rubicon of exclusion, a dividing line that was never

● Figure 2

THE WAY TO INCLUSIVE KNOWLEDGE	
Classical Approach	New Approach
What to teach, how to teach	→ Where to learn, when to learn
Initial education for a lifetime	→ Flexible learning throughout life
Fragmented knowledge	→ Inclusive knowledge
Status-ridden knowledge	→ Inclusive knowledge
'Have-nots'	→ 'Haves'



breached during the industrial age, notwithstanding the most vigorous denouncements fired at the educational perpetuation of an under-class of non-achievers and low-skilled in successive generations.

Constructivism sheds new light on the role of intersubjectivity vis-à-vis social learning: knowledge is elevated to the category of personal and social construct, indivisible from cultural conditionalities and their forceful interplay. The road to knowledge and cognition is thus contingent on memory, history, language, ethnicity and affection.

Culture, in itself, acts as a powerful marker of knowledge appropriation and transmission. Symbolic language pervades the entire universe of knowledge; speech — naming things — is intertwined with thought. Knowledge results from the internalisation of social interaction. Language is the material foundation of thought.

'Knowledge is love and light and vision' — those are the expressive words of Helen Keller, an admirable personality of our closing century. Each and every piece of new knowledge is a treasure disclosed.

Mastering the tools of comprehensive learning is a true cultural — perhaps multicultural — adventure, epitomised in democratic achievements such as freedom of thought and of opinion.

We have reached, at this junction, nothing more than a largely expected consequence. The sources of knowledge are rapidly changing; the ways in which we understand knowledge appropriation are equally undergoing dramatic evolution.

Theoretically speaking, knowledge availability increases exponentially in the world of the Internet and global networks. Despite this recognition, the world of learning is still a landscape of major differences, a source of unfair competition and unequal distribution.

Once education is regarded as the fundamental lever of societal progress or regress,

inclusiveness becomes the major policy issue to be tackled in the near future. Both equity and efficiency approaches demand from learning systems an enhanced capacity to deal with the socially deprived and with low-ability groups which the industrial mode of education systematically excludes from the organised benefits of human advancement.

**“the quest for a new knowledge paradigm is not separable from the goal of a more equitable distribution of knowledge”**

In a cognitive fashioned society, knowledge carries the potential of becoming a more powerful discriminator of human fate than in the former industrial society. To put it in other words, the premium placed on knowledge and competencies nowadays demands better attention to those groups of low-achievers that are falling through the loopholes of our basic education systems.

The quest for a new knowledge paradigm is not separable from the goal of a more equitable distribution of knowledge.

### References

- BRUNER, J., GOODNOW, J. and AUSTIN, A. (1956) *A Study of Thinking*. Wiley.
- SENGE, P. M. (1992) *The Fifth Discipline*. Sydney: Random House.
- KELLER, H (1967) *The Faith of Helen Keller: The life of a great woman with selections from her writings*. Edited by Jack Belik. Hallmark Editions.



# A PARADIGM SHIFT FOR DEVELOPMENT ASSISTANCE

“their poverty goes beyond income”

“growing gaps between rich and poor, sick and healthy, educated and illiterate”

*Dr Maris O'Rourke*  
*Director of Education, The World Bank*

## The context of population and poverty

Probably no social phenomenon has attracted more attention in the past half century than the 'population explosion'— that surge from about 2.5 billion people in 1950 to more than 6 billion in 1999, making the 20th Century one of unprecedented population growth. As the number of people grew, the interval for adding another billion people became shorter and shorter, with the increase from 5 billion to 6 billion occurring in only 12 years.

According to recent projections, the 7 billion mark will be exceeded in 2014 — the first time since reaching one billion that adding the next billion people is expected to take longer than for the previous billion.

More than half of the next billion will come from South Asia (310 million) and Sub-Saharan Africa (240 million). East Asia and the Pacific will add about 220 million, and the remaining 230 million will be divided mostly between the Middle East and North Africa and Latin America and the Caribbean. Europe and Central Asia will add 9 million people — just 1 per cent.

The next billion people will also be born into less favorable economic circumstances. The majority — just under 600 million — are projected to be in low-income countries (as defined in 1999). Middle-income countries will add 375 million people, most of them in the lower-middle-income group. Today's high-income countries will add a scant 30 million, or 3 per cent of the total, in the next 15 years.

Further, a sixth of the world's people produce 78 per cent of its goods and services and receive 78 per cent of world income — an average of \$70 a day. Three-fifths of the world's people in the

poorest 61 countries receive 6 per cent of the world's income — less than \$2 a day. One billion people live on less than \$1 a day.

But their poverty goes beyond income. While seven of every 1000 children die before age five in high-income countries, almost 100 die in low-income countries. Also, 125 million children are out of school, two-thirds of them girls. By 2015, 75 million children will still never attend school; but, more disturbingly, two-thirds of them will be in Sub-Saharan Africa.

Another factor contributing to the growing gap in social living standards is the HIV-AIDS pandemic. This is having a pronounced effect on education in Africa with a huge loss of teachers and other professionals, and growing numbers of orphans. At the end of 1999 33.6 million men, women and children were living with HIV-AIDS, 95 per cent of them in developing countries. More than 16 million have died — 13 million in Africa.

### Action to reduce extreme poverty

There are growing gaps between rich and poor, sick and healthy, educated and illiterate. This is the fundamental challenge of the century — can we, the nations of the world, work together to reduce the numbers in extreme poverty and lift people out of those extreme circumstances?

People are trying. The OECD-United Nations-World Bank conference (held in Paris on 16–17 February 1998) identified these six social goals and 15 complementary indicators to be monitored by the development community as part of a new international development strategy:

#### **Reduce poverty by half**

- Headcount index
- Poverty gap index
- Income inequality: share of income accruing to poorest 20 per cent
- Child malnutrition

#### **Provide universal primary education**

- Net primary enrolment ratio
- Progression to grade 5
- Illiteracy rate of 15- to 24-year-olds

#### **Improve gender equality in education**

- Gender differences in education and literacy

#### **Reduce infant and child mortality**

- Infant mortality rate
- Under-five mortality rate

#### **Reduce maternal mortality**

- Maternal mortality ratio
- Births attended by skilled health staff

#### **Expand access to reproductive health services**

- Contraceptive prevalence rate
- Total fertility rate
- HIV prevalence in pregnant 15- to 24-year-olds.

At the recent World Social Summit in Geneva, these goals and indicators were reported on and reaffirmed in 'A Better World For All'. The strategy places education in a key position.

### The key position of education

Real learning makes a contribution to reducing poverty, in particular, and to an improved quality of life, in general, through three pathways:

- First (*the middle path*), learning can have a direct impact on poverty reduction. When the poorest members of society have better knowledge about agricultural technology and about child health, for example, the worst aspects of their own poverty are likely to be alleviated.
- Second (*the top path*), the human capital accumulated through learning can lead to greater productivity, which in turn results in economic growth. When the economy as a whole grows, we can generally expect poverty to be reduced as there are more opportunities for the poor to work and earn.
- Third (*the bottom path*), when we learn to cooperate and respect one another, poverty is likely to be reduced as the non-poor are more likely to look out for the best interests of the poor members of their own society.

It is important to remember that education is a necessary but insufficient condition for poverty reduction. A sound macro-economic

environment with an effective labour market, along with a political context free from corruption, need to be in place for learning to be supported and bear fruit.

In our push to secure better learning, progress has clearly been made — for example, enrolment rates have grown over the last thirty years.

However, we still have an unfinished agenda. Sub-Saharan Africa faces a particularly serious challenge in achieving universal primary education with increasing numbers out of school, and declining access, and inequitable access. For example, the gender gap continues to be a worry in the Middle East and North Africa, South Asia and Africa. The same story can be told for rural/urban, special needs and so on.

“education is a necessary but insufficient condition for poverty reduction”

Adult illiteracy is high in developing countries for older age groups. What is more disturbing is youth illiteracy in many countries, especially young women.

A key factor in all this is being poor.

In the last ten years East Asia and the Pacific and the Middle East and North Africa have made good progress in the poverty indicators, South Asia progressed very slowly, Latin America and the Caribbean and Sub-Saharan Africa made virtually no progress and Europe and Central Asia went backwards in halving poverty by 2015.

New data from the World Bank suggest that the number of people in extreme poverty (living on less than \$1 a day) has been relatively stable in the past decade, rising in the early 1990s to a peak of 1.3 billion and then falling slightly to 1.2 billion in 1998 — roughly the same as in 1987. But the regional picture is varied. In East Asia and the Pacific the number in poverty fell sharply from 452 million in 1988 to 278 million

in 1998, mainly because of progress in China, with the rest of East Asia cutting its numbers by a third. Almost all other regions had their number in poverty increase. South Asia's rose from 495 million to 522 million, and Sub-Saharan Africa's from 242 to 291 million.

The proportion of people living in extreme poverty — the poverty rate — went down modestly from 29 per cent in 1990 to 24 per cent in 1998. Here again East Asia took the lead, reducing its rate from 28 per cent to 15 per cent. South Asia, home to the largest number of the world's poor, saw a modest decline of four points to 40 per cent over the same period. Sub-Saharan Africa (46 per cent) and Latin America and the Caribbean (16 per cent) had barely discernible reductions.

And this is why The World Bank exists — to fight poverty, and within that, from the World Bank Mission Statement:

***To fight poverty with passion and professionalism for lasting results.***

***To help people help themselves and their environment by providing resources, sharing knowledge, building capacity and forging partnerships in the public and private sectors.***

***To be an excellent institution that is able to attract, excite and nurture committed staff with exceptional skills who know how to listen and learn.***

We are working in education in our client countries to help them identify and take their next strategic steps to provide access to relevant learning and quality teaching:

- by making wise and fair investments, and
- by building sustainable institutional capacity.

We have over 200 projects in 88 countries, an ongoing portfolio of \$13 billion, and between one and three billion dollars of new lending a year.

This is all within a rapidly changing context. Over 100 countries now have democratically elected governments, twice as many as a decade ago. This has been accompanied by decentralisation of decision-making. Market economies now prevail in countries accounting for 80 per cent of the world's population, up from 30 per cent a decade ago. Global capital moves in



microseconds, global trade is growing. Technology has changed information flows and communication modes. There are new ways to improve access, improve quality, rethink what is learned and how. Governments are rethinking their roles and the private sector is becoming more involved. All these things require educated, skilled populations — sophisticated learners.

Yet what we see is a large part of the world still struggling to supply the basics, a lot trying to maintain the status quo in the face of all the evidence, and a very few re-inventing education and truly supporting the learning now needed.

All countries, developed and developing, have, more or less, the same goal. They all want quality education and training systems that provide all students with learning experiences relevant to their current and future needs in order to stimulate continued economic and social development through an educated and skilled citizenry and workforce.

They are all asking more or less the same questions:

- How do you respond to the huge growth in participation and deal with the numbers, especially the increase in demand for secondary and tertiary education?
- How do you include everyone — the poor, marginalised, rural, girls, disabled, Indigenous...?
- How do you share the costs and pay for it all?
- What are the provider/funder issues of government?

### The World Bank's response

Although our responses in each country are going to depend on the particular context in which that country is operating, there are nevertheless some areas to which the World Bank does pay particular attention, such as:

- preventive interventions (early childhood education, school health)
- interventions that bring high returns (basic education, girls' education, use of new technology)
- systemic reform (standards, governance, private sector).

Paying attention to these areas doesn't mean doing something in all these areas in all countries, but it does mean that we consciously check to see whether these issues need to be raised in dialogue with the client country.

We may decide that this issue has been dealt with successfully. We may decide that improvements would help, but that the Bank is not best placed to assist at this time. And then, we may decide that the Bank could indeed provide valuable assistance.

This dialogue is particularly important in light of the debt relief initiatives of the World Bank and the IMF with 40 Highly Indebted Poor

## “fight poverty with passion and professionalism”

Countries (HIPCs) because these funds must all be targeted on the social sectors, specifically health and education, and improving the conditions for learning. World Bank and IMF set two priorities for action in 1999:

- expand debt relief to reforming HIPCs and link to social policies
- help countries develop Poverty Reduction Strategies (PRSs).

To do that we are working on a number of fronts (internal and external) to really target on the poor, develop poverty reduction strategies with the countries and focus on improving partnerships in order to succeed in two key areas — achieving education for all, and bridging the digital divide.

Progress requires partnerships to be at all levels and all encompassing of:

- governments
- grassroots (students, families, communities)
- private sector and public-private ventures
- teachers and teachers' organisations
- international, regional and bilateral organisations.



No one group or agency can do any of this alone — we have to move forward on all three fronts: the government, the private sector and sources of external financing. External financing is a small percentage, but often the only discretionary money that a government has. It has significant leverage.

External financing from developed countries is unfortunately dropping worldwide with only four countries (Denmark, Norway, Sweden and the Netherlands) meeting the target of 0.7 per cent GNP.



**“harnessing the energy and expertise of the ‘private’ sector in its broadest sense”**

The largest amount of money spent is by governments, and they can measurably increase the efficiency of their poverty reduction efforts by improving the policy and institutional environments. The research shows that the effects of development aid are doubled if the countries are targeted by donors.

A key strategy is harnessing the energy and expertise of the ‘private’ sector in its broadest sense — communities, parents, students, employers, entrepreneurs, NGOs, for profit and not for profit. Everyone must be brought on board to move forward on the three fronts (governments, private sector, external agencies) in any given country.

This will be particularly important for bridging the ever-widening ‘digital divide’ and making knowledge widely accessible. In the words of Sir W. Arthur Lewis, Nobel Laureate, Economics, ‘The fundamental cure for poverty is not money but knowledge’.

Let me give you one example: the Internet. Love it or hate it, it is providing access to global databases of knowledge and resources and many learning, employment and entrepreneurial opportunities worldwide. It requires infrastructure and affordable connectivity rates. What is the reality for the developing world?

We can see this ‘digital divide’ in the share and cost of Internet access. For example, Africa’s share of the worldwide Internet-access pie is miniscule in comparison with other world regions. While the number of Internet users worldwide has reached over 153 million in 1998, only 1.14 million users were in Africa. This compares with the 27 million in Asia/Pacific, the 33 million in Europe, 0.78 million in the Middle East, 87 million in the US and Canada and the 4.5 million in South America. In recent years however, Internet access has grown rapidly in Africa. As of July 1999, 53 of the 54 African countries and territories had Internet access in capital cities. Most African capitals have more than one ISP and in late 1998 there were almost 400 ISPs across the region. The cost is still very high as a percentage of GDP per capita, for example, 1.5 per cent for Australia versus 107 per cent for Uganda.

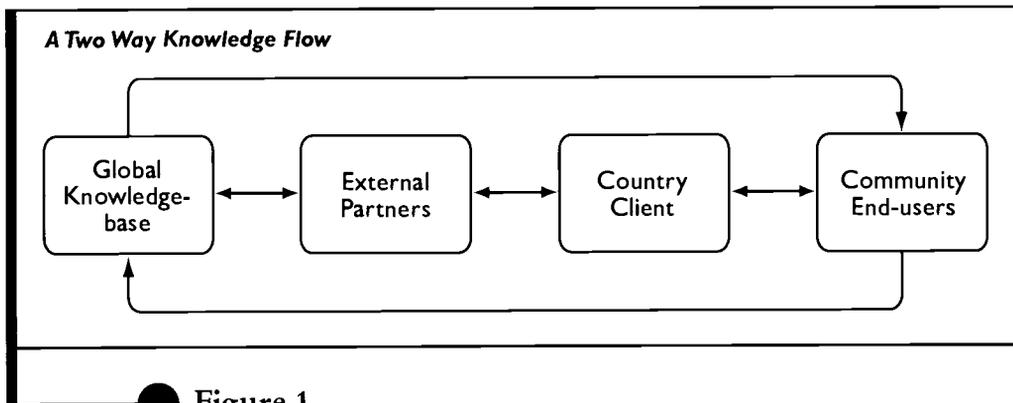
Just to solve this one issue alone requires different technical and use capacity, but, more importantly, different understanding, approaches and ways of working. Deregulated telecoms/competition, regulatory framework, wireless options and community connectivity centers would contribute to access and affordability.

**“we can see this digital divide in the share and cost of Internet access”**



**A shift in the development assistance paradigm**

We need a shift in the development assistance paradigm. There is growing imperative because in a fast changing context all countries now need more highly educated and skilled populations, and individuals need more skills and information to compete and thrive. Democratisation requires citizens equipped to access and process information. Market economies reward entrepreneurs who innovate and manage risk well. Globalisation gives the



● **Figure 1**

advantage to productive and adaptable workers. Technological innovation enhances opportunities for lifelong learners. The provision of a good education system, which supports people **learning**, is therefore critical, and the stakes are very high. The choices countries make now will have long-term ramifications. Those who respond astutely will make progress, those who do not risk falling even further behind.

Obviously it cannot be business as usual.

Several decades of development assistance has shown the limitations of knowledge transfer, based on policy blueprints. What works and what does not work is highly dependent on the country context. A general policy blueprint may not be useful in addressing specific needs. Ultimately development solutions reside in the countries themselves whether developed or developing. However, sharing country/regional/global experience and using local knowledge can help.

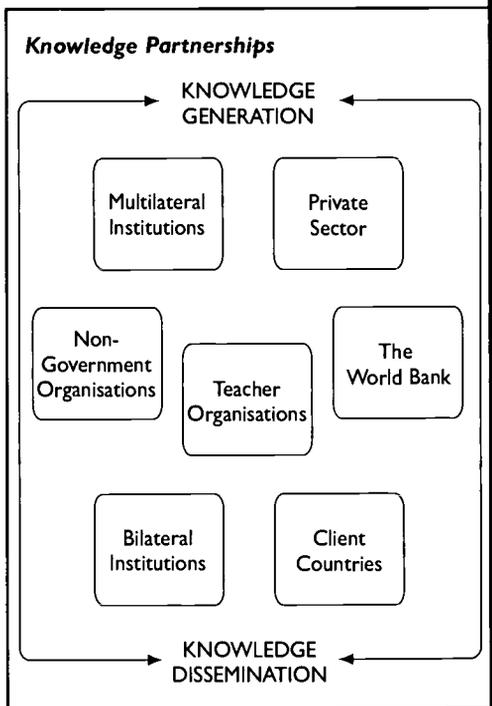
To do this requires the integration of the activities of all players into a 'community of practitioners'.

Traditionally, there is usually little learning taking place in a country between the central and the local level, particularly rural, indigenous groups. Also, traditionally, there is little learning taking place between any external partners and countries. We need to change knowledge flows, so that learning is two-way and reciprocal.

Let me illustrate what I mean: A high level team from the Ministry of Education from Brazil spent three days working with a team of education

specialists to learn from each other and identify their next strategic steps. The concept of team is expanded de facto to include countries, partners, development institutions. The objective is to create an environment where partners can learn from each other. No blue print, but a joint learning exercise. This of course requires adjustments in the culture/behavior. We are actively setting up knowledge partnerships for knowledge sharing and exchange.

● **Figure 2**



This requires a real shift in behavior and culture away from how we share knowledge at present to something broader and more diverse and interactive, and accepting of other forms of knowledge and ways of knowing.

This is not about technology, it is about people talking to each other, listening, learning from one another and building joint theories, policies and solutions. Technology is only a facilitator (but an important one).

The good news is that it is starting to happen in various communities. A few examples from World Bank experience are:

- Caribbean Education Knowledge Network
- National education advisory service desk at the Ministry of Education in Chile

- School Networks, Global Links
- The Virtual University of the Technological Institute of Monterrey in Mexico

There are many more examples and each one of us can come up with some. The challenge in front of us is to:

- redefine the boundaries of our institutions
- strengthen knowledge partnerships
- listen, learn and grow together.

That is how we will create environments that support learning worldwide for unknown work in an unknown future.

<b>Traditional versus Knowledge Sharing Culture</b>		
	<b>TRADITIONAL CULTURE</b>	<b>KNOWLEDGE SHARING CULTURE</b>
Level of Trust	LOW	HIGH
Interaction of people across organisational boundaries	LOW	HIGH
Tolerance for mistake making and 'not knowing'	LOW	HIGH
Diversity of perspectives	LOW	HIGH
Rewards and recognition for knowledge sharing and collaborative work	NO	YES

● Figure 3

### **An appeal to Australians from the President of the World Bank**

The Australian who heads up the World Bank, Mr James Wolfensohn, has exhorted Australians to accept the challenge of putting a computer with internet access into every village in the developing world. The Australian Financial Review (27 October 2000) reported that he appealed to Australians' sense of heroism when speaking in New York recently:

'I believe in this age of globalisation and this age of prosperity there is an extraordinary opportunity for Australians to make a massive contribution on this issue of development and poverty. Not just for reasons of softness — though my own view is that's enough — but because in terms of making out planet a safer place, as our soldiers did in World War I and World War II, there is a challenge that can be met in the world right here.'

# CLOSING THE GENERAL- VOCATIONAL EDUCATION DIVIDE: THE TOUGH ISSUES

*Ms Sandra Yates*

*Chair, Saatchi and Saatchi Advertising*

*Chair, NSW TAFE Commission Board*

**H**erewith, two snapshots of the seemingly relentless march of modern technology.

First, an email message headed 'I love you' is sent by a single person from somewhere in the world. In only two days, the 'love bug' spreads to computers across the world and causes an estimated damage of \$10 billion.

The second snapshot relates to the Australian mining industry. Three of Australia's biggest resource companies are establishing a joint-venture company with eleven 'global rivals' who together represent 60 per cent of all global mining. The new company will create a virtual market-place on the Internet for members to order and purchase equipment and other goods. It will slash billions of dollars from the global industry's costs, and it will put enormous pressures on the profit margins and operations of the many thousands of suppliers who deal with that industry. Strategic alliance, even between competitors, is becoming more and more an approach to tackling large, common problems.

The snapshots are suggestive of the truly fundamental changes that are occurring in our economy, the way we do business, and in our labour markets and workforces. These changes are fundamentally challenging the way we organise and deliver education and training — in Australia and across the world.

We are still undergoing what is a true technological revolution. I believe the term revolution is a correct one — with all the implications of radical shifts and possible conflicts and upheavals that this term implies.

It is not just about the new economy of computers, software, media and dot-coms. Technological change has been dramatically transforming the old economy.

**“these changes are fundamentally challenging the way we organise and deliver education and training”**

**“the mismatch between old skills and new jobs is growing”**

Alan Greenspan, the Chairman of the US Federal Reserve, warned that the fundamental changes now occurring mean that monetary, fiscal and trade policies need to be equally matched by an education policy of investment in programs that will foster lifelong learning and skills training for members of the workforce.

He also pointed out that a by-product of economic and technological change is worker insecurity — a fear of job and skills obsolescence.

There are two major problems: bottlenecks at the growth end of economy, and redundancy at the declining end. The mismatch between old skills and new jobs is growing.

This has implications worldwide — not just in economic terms, but for individuals (and for groups of people suffering particular disadvantage) over the whole of their working lives.

There are major social dilemmas that Australia will have to address. How do we manage Australia's sometimes unwieldy and inefficient state-federal structure? How can we achieve reconciliation with the people who owned this country for many thousands of years? How do we ensure that our country is self-reliant and able to grow economically in a world marketplace?

—● “how do we manage Australia's sometimes unwieldy and inefficient state-federal structure?”

How do we help people to live happier, more productive lives with a good standard of living in an environment where there is growing disparity between rich and poor?

To answer these questions we need to know more about the social, economic and workplace changes that have occurred, project them into the future — and assess what implications they have for the ongoing development of Australia's education and training system.

## International education and training responses

The critical questions: Are our education and training systems responding appropriately to rapidly changing skills needs and social and economic realities? Are we doing enough to meet the skills needs of new industries, new occupations, changing labour markets? Are our systems adaptable enough?

Are we providing individuals with the ability to adapt to change? Do we have the structures that will encourage people to keep on learning throughout their working lives?

In Europe there has been a renewed focus on education and training in promoting economic competitiveness, job creation and social cohesion.

A new European Employment Strategy has been formally endorsed by all European Council (EC) member states. The new strategy places far greater emphasis than before on the strong connection between human resource development and economic growth — and lifelong learning is now a strategic issue. In March this year, the EC formally endorsed the new strategy and called on all member states to:

- substantially increase annual investment in human resources development
- develop schools and training centres into multi-purpose local learning centres
- draw up of a definition of appropriate basic new skills to be acquired through lifelong learning, including IT skills, entrepreneurship, and social skills.

## What kind of skills are required in the knowledge economy?

But what do we mean when we say we need an increasingly adaptable and highly skilled workforce? And why the need for lifelong learning?

Australian employers want in employees an appropriate mix of general and specific skills and knowledge, of both academic and vocational learning, of the theoretical and the practical. They want high levels of literacy and numeracy, self-confidence, adaptability, personality, a

problem-solving capacity, and communication skills — at all levels of the workforce and in all areas of economic activity.

The EC's Alan Larsson put it succinctly in saying that today's workforce is increasingly being required to do different things and to do things differently — to think process, not just function; skill, not just task. Better education and training is needed for more jobs than ever before.

## “to do different things and to do things differently”

At the recent CREATE Australia conference, David Puttnam, head of the General Teaching Council in the UK, argued that what we are seeing now is the advent of the creative economy — one where change will be driven by those with vision, courage and creativity, rather by those who are merely well-informed and technically competent. He sees the critical challenge as finding new ways by which we can incorporate creativity and the arts into the whole learning process.

### Convergence of general and technical education

We are seeing in education and training today an increasing trend towards convergence — doing away with the artificial and narrowly-defined pathways of the past where you pursued either a general education or technical training path, with very little overlap or opportunity to travel between the two.

In vocational educational and training, for example, we cannot afford to just focus on industry-specific competencies. We must also teach generic competencies such as collecting, analysing and organising information; communicating ideas and information; working with others and in teams; and technological literacy.

Australian universities are responding to the new realities and becoming more vocational in their focus. Our schools are trying to ensure

that young people obtain an education where the two approaches are integrated.

Australia, like many other countries, has promoted opportunities for secondary students to undertake vocational education and training studies as part of their secondary school certificate, through a national initiative to forge stronger links between schools, the VET sector and industry.

Historically, schools have provided a strong pathway into higher education. Today, with the evolution of vocational programs in schools, we are complementing this by creating strong pathways into either direct employment or into a range of ongoing education and training options.

This is not a 'back to the future' return to the old-style streaming of the less able.

Schools are entering into formal partnerships with TAFE, other training providers and with employers. In so doing, they are expanding pathways and improving outcomes for young people. It is no surprise that the more applied approach to learning and assessment in schools and the associated close networking with industry have also invigorated the teaching profession in NSW.

## “this is not a ‘back to the future’ return to old-style streaming of the less able”

### Links between sectors

Vocational programs in schools provide students with an integrated set of practical and generic skills. NSW universities now recognise all the programs for the Universities Admissions Index. However, as recognition is limited to only two units out of the ten required, NSW has been leading a national effort for even greater recognition by universities. As the universities are autonomous institutions, this can only be achieved through much negotiation and the establishment of formal partnerships between the two sectors.

NSW has also been seeking to improve the articulation between schools and TAFE and to improve partnerships with industry and with individual businesses and enterprises.

We are trying to do this at many levels: from industry involvement in curriculum development, in state-level strategic planning, in district-level advisory structures, and at the local level in the provision of workplacements for the estimated 25,000 senior school students expected to be undertaking vocational programs by 2002.

“a great many people want to learn, but in more bite-sized chunks”

Another priority area for improving pathways is between TAFE and universities, particularly in the area of articulation and credit transfer arrangements.

Unfortunately, progress to date has been slow and we still see unnecessary barriers to cooperation — resistance by some universities, each university having a different approach to TAFE issues, and, in some cases, actual competition in the provision of diploma and degree level programs.

The Adult and Community Education (ACE) sector also forms a very important role in the development of more efficient and responsive education and training pathways.

Formal partnerships and cooperative arrangements have been forged between TAFE and the ACE colleges, which provide programs to more than 350,000 people across NSW. ACE colleges provide both accredited and non-accredited vocational training, as well as language, literacy and general education programs.

One of the lessons we have learned from ACE activity is that a great many people want to learn, but in more bite-sized chunks. They want short, flexible programs that can be easily accessed and available at the times that are suitable to them.

The ability of the ACE sector to respond both to industry and individual needs, particularly the needs of small business, should serve as a model to us all.

### A unified vision for future education and training

In Australia, young people now entering the workforce can expect not only to change jobs, but possibly even careers, several times in their working lives. All people need to have the ability and desire to learn as the basis for ongoing learning throughout life, so they can better adapt to changed circumstances and to changing employment opportunities.

Our education and training arrangements need to reflect this reality better. A critical priority now is for us to knit together into a more coherent whole different and increasingly diverse education and training sectors and providers. We need to provide more flexible structures and arrangements that will allow any individual to move easily along, and between, an increasingly diverse range of learning pathways, depending on their personal desires and current skills and knowledge levels.

We need to provide better linkages and formal pathways between schools and employment, and between the different education sectors. We need to create closer partnerships between governments, employers, training providers and the wider community.

We should now be asking some of the harder questions about the planning and resourcing of education and training.

I am particularly concerned, for example, that multiple and competing national policy priorities in vocational education and training — and the complexities of the national training system — are currently placing quality and access at risk.

### A national vision for VET

In NSW (and other States) we have made tremendous strides, in partnership with the Commonwealth, towards raising skill levels and creating a unified and effective national training system that meets industry and individual needs.

The way forward now rests on a revitalised national partnership — one that permits States and Territories to deliver effective and efficient training, consistent with both national and local needs.

States and Territories should be able to determine the best ways to implement broad national priorities agreed to cooperatively across governments, industry and training providers. There are tough implementation issues that confront every State and Territory that demand leadership and cooperation from our national bodies in forging creative solutions.

My concern with the current national system is that it is characterised by the strenuous leveraging of Commonwealth funds in a climate of uncertainty and complexity. There is a distrust of, and often disregard for, those closer to the real needs of local and regional economies.

“strenuous leveraging of Commonwealth funds in a climate of uncertainty and complexity”

### Training packages

A key area of disagreement and debate, particularly between the government partners in reform, is on the implementation of ‘training packages’. Training packages under the new National Training Framework were conceived as a key instrument in ensuring that pathways within and between educational sectors were strengthened, and that individuals were equipped with the skills required today.

NSW was critical early on in the development of training packages for their neglect of underpinning skills and knowledge. Today they still tend to de-emphasise these areas: they focus on assessment rather than learning, and they are not user-friendly for a significant number of people, particularly the off-the-job learner and those seeking a pathway out of unemployment.

Training packages seem to reflect an almost curriculum-free approach, and I am concerned they are inadequate as a stand-alone blueprint for learning. They represent a scaffolding, not the elements of the building itself.

This is not some residual concern with the competency approach. The current trends in Europe suggest that NSW’s approach is an increasingly shared one.

Adequate attention to teaching and learning materials to support training packages would enable a structured and sequenced acquisition of underpinning skills and knowledge, ensure consistently high standards across diverse regional and client groups, and maximise opportunities for credit transfer arrangements with higher education.

From a practical point of view, the Australian National Training Authority (ANTA) no longer funds maintenance of national curriculum — instead the States are having to do this individually. This means duplication of effort and a substantial shift in costs to the States.

ANTA is currently evaluating the training packages already implemented, and this provides us with a valuable opportunity for a stock-take.

### Apprenticeships and traineeships

Another area where national developments are at odds with state priorities is in apprenticeships and traineeships. The Commonwealth agenda on the apprenticeship and traineeship system has tended to focus on job creation and on increasing numbers — but in a manner that has the potential to compromise the quality of training and the value of training outcomes for young people.

It is timely to reconsider entry-level training arrangements. Are the models of training represented by traineeships and apprenticeships the ones we need for the future? What different models might encourage employers to invest more in the formal training of their employees?

### Public resourcing in overseas countries and Australia

The overarching issue of public resourcing of education and training, and the current push for

greater levels of private funding, are increasingly subjects of vigorous debate between the States and the Commonwealth.

Australia has a proud history of public education and training. The growth of industry has relied heavily on high quality, publicly-funded training delivered by State systems.

The current European push for greater investment in education and training is remarkable, given that such investment has been steadily growing throughout the 90s.

The OECD recently reported that public spending on education and training in OECD countries, as a proportion of GDP, rose by 11 per cent between 1990 and 1997 — and now stands at an average of 5.8 per cent.

## “Australia's public spending on education remains low in comparison”

Australia's public spending on education, however, remains low in comparison. The corresponding Australian figure is 4.3 per cent of GDP in 1997, the same level as in 1990.

More tellingly, the OECD's growth in public expenditure during the 1990s was largely in the tertiary education sector — an average 20 per cent increase. The UK saw even more dramatic growth in this area, with an increase of 40 per cent.

In contrast, Australia's higher education sector has seen a steady erosion since the late 1980s in the proportion of national output devoted to universities through public resourcing.

Australian universities now obtain something like 40 per cent of their funding from private sources — but such funding has not nearly kept pace with reductions in public funding levels.

Many commentators argue that educational quality in our universities has now reached a true crisis point. Canada's public spending on higher education as a proportion of GDP is almost 50 per cent higher than Australia's, and

spending per student in Australia is well below China, India, the UK, Canada, New Zealand and most of Europe.

A similar process seems to be occurring in Australia's vocational education and training system.

When the new national framework and partnership with the States for the reform of vocational education and training began in 1992, the States agreed to implement agreed national priorities. In exchange, the Commonwealth provided funding to the States to pay for growth.

However, since 1998 the Commonwealth has insisted on only maintaining pre-existing levels of funding to the States, and only if the States fund growth in their systems through creating system efficiencies.

The limits on Commonwealth resourcing ignores a wide range of critical priorities demanding growth over the next few years, such as:

- re-integrating marginalised young people into mainstream education and training
- providing re-training for mature-age workers
- catering for the increasingly large number of university graduates seeking TAFE qualifications
- improving training participation and outcomes for groups under-represented in education and training.

## Open training markets

The training market has been increasingly deregulated, with the expectation that market forces, rather than the legitimate goals and priorities of State governments, will guide appropriate investment, delivery and outcomes.

NSW does support a careful, measured approach to competition in education and training, but only in markets that are strong enough to support competitive arrangements.

There are many areas, particularly regional and rural areas, where competition could actually prove destructive and threaten the viability of training.

Competition is also not an answer to meeting the legitimate social and equity goals of

government: to provide opportunities for all people to participate and progress in the new economy, and to share in the undoubted benefits it is delivering to the nation as a whole.

“competition is not an answer to meeting the legitimate social and equity goals”

### Strengthening public provision to protect equity

This is not some turf-war between NSW and the Commonwealth. It goes to the heart of what public provision of education and training is all about.

It should be about quality, responsiveness to economic and industry needs, and efficiency, yes. But it also has to be about inclusiveness — a true partnership with individual communities and all the people who are a part of those communities.

The rapid economic changes that are occurring are impacting inequitably on different groups of people and on different geographic areas.

The need to ensure equity, inclusiveness and social cohesion in the face of revolutionary change is a critical reason to reaffirm commitment to strong, public provision of education and training.

TAFE NSW, for example, serves social obligations that simply cannot be met under a private system. It provides vital support for regional areas, and has developed effective strategies for a range of targeted groups such as women, Indigenous people, people from English-speaking backgrounds, people with disabilities, and young people at risk.

### Adequate funds for VET

Unfortunately, I believe, there has been too much reliance placed on market forces in education and training, and an over-optimistic reliance on private investment to take up the slack created by declining public investment.

There is strong evidence that industry investment in formal training has actually declined during the last decade. A critical area has been the long-term decline in apprenticeships, despite skills shortages in key areas. In part, this is because of the reluctance of enterprises to make long-term commitments to training.

Our investment in vocational programs in schools is helping to offset this trend. We are offering industry-relevant programs that provide clear pathways into key trade areas experiencing skills shortages. TAFE's strength in trades training also provides a critical contribution.

Trends in Australia's changing economy (shorter contract cycles, greater outsourcing, ongoing enterprise restructuring, casualisation of jobs, growth in the use of labour hire companies) are working against any significant increase in industry investment in training.

“a potential for greater shifting of training costs from industry to the public sector with traineeships”

There is even a potential for greater shifting of training costs from industry to the public sector with traineeships — changed Commonwealth policies have seen the proportion of traineeships taken up by existing workers grow significantly in the last couple of years. This diversion of constrained public resources to existing workers threatens the system's capacity to provide an adequate number of traineeships and apprenticeships to young people. It is also a means by which enterprises can transfer to the public sector some training costs which they would otherwise have met themselves.

It is clear that an over-reliance on market forces carries the potential to reduce the ability of our education and training system to meet the critical economic and social challenges now facing us.

There is an urgent need to increase the level of public resources for all education and training, backed by a more comprehensive and more sophisticated approach to policy and planning.

It requires an approach which will meet the needs of the modern economy, at the same time support the creation of partnerships and educational pathways that can support the needs of individuals, and promote learning throughout life.

—● “a new national partnership of governments, industry, training providers, and the wider community”

This can only be done through the forging of a new national partnership of governments, industry, training providers, and the wider community. We need to create a new consensus across the board about directions and processes.

### Conclusion

In conclusion, quality and responsiveness will be the hallmarks of effective education and training in the new millennium, with an appropriate balance between protecting the public interest and ensuring market flexibility.

It is only in achieving such a balance that we collectively can hope to meet the economic challenges we face, and that we can hope to produce a fairer society where everyone can share in the opportunities and benefits these challenges provide us.

# SELECT SUMMARIES OF CONFERENCE PRESENTATIONS

During the ACE Education 2000 International Conference, a variety of panel sessions was conducted and a host of papers presented. The summaries contained in the following pages provide a sample of the many challenging ideas and good practices that were advanced at the conference.

Readers should note that in most cases, the papers from which these summaries have been derived can be obtained from the 'Member' pages of the ACE website, see <http://www.austcolled.com.au>

In the same pages, members can also access many other papers or power point presentations, a further sample of which includes:

- Israel Austin and Leslie Pyke —  
*Unique Development in Cyber Lecturing to International Students*
- Deevia Bhana —  
*Prioritising Gender in Education*
- Hetty Cislowski —  
*Whole-School Change and VET in Schools*
- Tony d'Arbon —  
*Priorities for Educational Leadership in the Third Millennium: Implications for the survival of the principalship*
- Chris Duke —  
*Lifelong Learning and the Teaching Task*
- Phil Lambert —  
*Priorities for Early Childhood and Primary Education*
- Pamela Matters —  
*Millennium Mentoring: Learning through the lifespan*

Julia Atkin —  
*Styles of Learning*

Christopher Gleeson —  
*The Sound of Eternity in the Midst of Change*

Gordon Stanley —  
*Teacher as Knowledge Engineer*

Manoj Chandra-Handa —  
*Connected Learning by Knowledge Workers*

Barbara Preston —  
*Policy for Future Teachers*

Paul Brock —  
*Standards for Professional Practice*

Denis Ralph —  
*Learning Cities of the New Millennium*

# STYLES OF LEARNING

*Dr Julia Atkin*

*Education Consultant*

Education in Australia in the last 50-100 years has been characterised by a style of learning in tune with the industrial era. In attempts to give all youth a comprehensive school education, 'mass production', 'standardisation' and 'efficiency' were the operative terms, and educational design seemed to be ruled by a factory model mentality.

Although this style of learning can claim significant achievements in terms of providing access to school education for the multitudes, it falls short of the mark in providing a style of learning that maximises learning for all. The rapidly changing nature of work in the emerging knowledge era, the development of new communication technologies over the past twenty years, and the development of understandings of how we learn and what supports effective learning, challenge us to develop a style of learning for the new millennium that is vastly different from the factory model. The emerging learning culture is one in which learning will:

- be lifelong
- involve learning to learn
- be learner directed
- be customised/personalised
- be collaborative/cooperative
- be in context
- transform an individual's perceptions and competencies through 'knowing directly' rather than 'knowing about'
- will occur at the point of need
- be 'just in time' rather than 'just in case'.

We have both the opportunity and the challenge at the beginning of this new millennium to develop styles of learning that are more suited to our natural style of learning.

From many years of researching what supports and enhances learning, I believe that learning is maximised:

- in a personalised setting in which the human relationships serve to inspire, encourage and challenge the learner (personalised)
- by achieving genuine success and accomplishment (customised, 'just in time')
- when it is driven by intrinsic motivation (learner driven)
- when it involves the learner constructing and reconstructing meaning from experience (transformative, in context)
- when learning involves authentic interactions with others, or others' knowledge, that engage with and enlarge the individual learner's experience (collaborative/cooperative)
- when a learner understands their own learning style and has developed strategies and approaches which access their full learning capacity rather than simply their learning preference (learning to learn).

If the opportunity so beautifully matches the natural laws of learning, wherein lies the challenge? The challenges lie in:

- recognising that 'standardisation' may be the number one enemy to 'raising standards'
- developing and implementing models of teaching and learning that are almost the antithesis of what most practising teachers themselves experienced as learners in formal educational settings
- providing adequate human resources to enable learning to be supported at a personalised level
- putting learning back into authentic contexts and back in touch with whole communities.

Most importantly, the challenge lies in developing a national mind-set that sees education as a critical investment for the nation's future — not simply for developing the intellectual capital of the nation, but, just as importantly, for developing the social capital of the nation.

# THE SOUND OF ETERNITY IN THE MIDST OF CHANGE

*Fr. Christopher Gleeson S. J.  
Headmaster, Saint Ignatius College  
Riverview*

Against the background of the catchcry that the only constant today is change, it is important to help young people find some constants other than change in their lives. Indeed, the teaching of values and virtues by parents and teachers is critical if our youth are to find their way through the maze of change. To this end, it is important to distinguish between values and virtues, information and formation, in our efforts to show that character is not simply a given. In relatively recent times, schools have returned to understanding that the formation and development of character is an essential part of the education process. For too long society has emphasised the importance of rights without corresponding responsibilities — a vacuous and misleading exercise. Good moral education must focus on both rights and responsibilities, values and virtues, if it is to instill the strong habits that constitute character.

“values and  
virtues are  
inseparable”

I am very fond of the statement of Dr. Jonathan Sacks, Chief Rabbi of the Hebrew Congregations of the Commonwealth, when speaking about the importance of religious education in schools. He said: "You defend a country by armies. But you defend a civilisation by schools." In a time of social instability, children needed more than ever a sense of 'rootedness' in a living tradition. We need to teach our children to hear the sound of eternity in the midst of change.

Values and virtues are lighthouses, song lines, maps and direction finders in the maelstrom of change facing us and our young people

today. In our society which frequently espouses a comfortable relativism of 'anything goes', such talk about 'goodness beyond virtue', about transcendent values, is anathema. In describing current Australian society as 'stigma-light and information-rich', Kate Legge comments: 'In the seventies we said: "If it feels good, do it". In the eighties: "If you can get away with it, do it". In the nineties the Nike running shoes giant said: "Just do it".'

“virtues are the  
strength, power, and  
practical wherewithal  
to implement one's  
values and  
commitments”

We need to teach both values and virtues if we are to provide a holistic education for our young people. A student who understands both will realise that values and virtues are inseparable. He/she will know the 'difference between values that are subjective (a preference for frozen yoghurt over ice cream) and values that are objective (the obligation under justice to share food with someone who is hungry, the obligation under temperance not to gorge yourself to the point of throwing up)'.

I would argue that it is a half-truth to believe that values are caught rather than taught. Values are the 'why' behind our decisions, and virtues, as the roots of the word suggest, are the strength, power, and practical wherewithal to implement one's values and commitments. We need to teach both if we are to do our students justice. I could not end with a more pithy summary statement than the title of a book by Bo Lozoff, the Director of The Human Kindness Foundation. 'It's a Meaningful Life — It just takes Practice'.

# TEACHER AS KNOWLEDGE ENGINEER

*Professor Gordon Stanley  
President, NSW Board of Studies*

In response to changes driven by information and communication technologies, a major priority for the teaching profession is to develop the notion of the teacher as knowledge engineer. Teachers as knowledge engineers have to design the stages of the process whereby an individual moves from being a dependent learner, to an independent learner, to a lifelong learner. Knowledge engineering involves design, plans, project-management, team-work.

“no longer is it sufficient to present outcomes in terms of ranks and scores”

A knowledge engineer needs to have clear and contemporary understanding of how people learn and ways in which this may be changing. The US National Research Council report, *How People Learn* (Bransford, Brown & Cocking, 1999), is a valuable starting point for thinking about teaching and learning today. The report deals with learning-centred, knowledge-centred, assessment-centred and community-centred environments.

**Learning-centred environments** pay careful attention to the knowledge, skills, attitudes and beliefs that learners bring to the classroom. Teachers in such an environment recognise the importance of building on the conceptual and cultural knowledge that students bring with them. From this understanding of where students are 'coming from', the teacher can build bridges to where the students need to 'go' in their journey towards improved knowledge and understanding.

**Knowledge-centred environments** recognise that to be able to think and solve problems requires more than general strategies. Students need to develop an understanding of disciplines and to recognise

the contextual constraints of knowledge acquired. Knowledge engineers need to understand the structure of knowledge. A focus on structure requires us to understand how knowledge is organised. Expertise in particular areas involves more than a set of general problem solving skills. It also requires well-organised knowledge of concepts and inquiry procedures.

The key elements of **assessment-centred environments** are that assessment is related to the learning goals and involves the provision of feedback with opportunities for revision and improvement. No longer is it sufficient to present outcomes in terms of ranks and scores. Students, parents, employers and future education providers will need to know what the assessment describes in terms of what the student knows and can do. Results will be standards-referenced, where standards are clear statements of performance with respect to stimulus outcomes.

**Community-centred environments** reflect an emphasis on the norms for people learning from each other and continually attempting to improve. The new communication technologies enable students to connect with other students, with parents, with business leaders, content area experts and others around the world. Learning is moving beyond the closed confines of the classroom to open relationships with a range of communities. Organising the interactions and ensuring they are targeted towards appropriate developmental goals for the individuals concerned will be a significant role for the teacher as knowledge engineer.

The role of the teacher in the information age will remain central, and much more complex in its demands. Expertise in bringing knowledge into a developmental framework for individuals and helping them to climb new peaks of personal achievement will be essential.

## Reference

BRANSFORD, JD, BROWN, AL, & COCKING, RR. (1999) *How People Learn*. Washington, DC: National Academy Press.

# CONNECTED LEARNING BY KNOWLEDGE WORKERS

*Mr Manoj Chandra-Handa*

*Director of Computing, Knox Grammar School, NSW*

A major aim of education should be to prepare students to participate in and contribute to contemporary society. To do so, we need to go beyond established traditional teaching and learning practices. In a contemporary classroom, it is the 'connected learning' by knowledge workers that is going to prepare boys and girls for the challenges of the new millennium. It is an environment which focuses on learner-centred education where students are exposed to a curriculum infused with exciting and technology-integrated learning programs; on the integration of technology in a seamless manner to support and extend our curriculum objectives; and the school becoming a learning organisation where teachers *share learning* with students. It requires a paradigm shift from 'broadcast' learning to interactive, connected learning in our educational organisations.

To reach that colourful, compelling dream of connected learning, a leader needs strategies in place — the overall framework that coordinates the decisions and actions taken by the organisation to realise its vision.

The following steps are needed for a strategy process to be effective and meaningful:

- shaping a shared, strategic vision of the future (e.g. our vision is to achieve international best practice in teaching and learning by integrating technology into the curriculum with a focus on student centred learning)
- deciding on the strategic thrust of the organisation (e.g. our approach has been for to share learning with students)
- identifying the strategic issues and selecting an appropriate time frame for their resolution/implementation:
  - staff empowerment issues (e.g. building a staff team; igniting the passion of

everyone involved; creating an organisational culture with common values; encouraging top performance; ongoing staff training; and fostering growth)

- network issues (e.g. creating a network that is forward looking and connects the staff with the students)
- curriculum issues (e.g. integrating technology into the outcomes-based curriculum; online marking; online electronic markbook; and online examination)
- student issues (e.g. student technology leadership)
- wider community issues: reaching out to the community and sharing our vision
- generating short-term wins and sharing success stories
- evaluating long-term trends affecting the strategies and consolidating the achievements of the organisation.

An effective strategy makes the vision realistic and transforms it into a series of decisions and actions (as is being done currently by the Immersion Learning Program Committee at Knox). Effective strategies have to be future-oriented, practical and feasible.

Ultimately, it is the leader who must initiate and bear the torch of the strategy process. The leader's involvement creates the necessary mandate as well as the psychological climate in the organisation with a common strategic plan. Throughout the process, the leader serves as a role model, negotiator and facilitator. As the implementation process proceeds, she/he monitors progress, keeps the school council informed, and shares the celebration of various accomplishments with the staff members from time to time.

An innovative leader as a strategist must fast-forward his strategies and leadership into the future, now.

# POLICY FOR FUTURE TEACHERS

*Ms Barbara Preston  
Barbara Preston Research*

The quality of teaching, and thus the professional qualifications, competence and experience of teachers, is at the forefront of schools policy. Yet, among policy-makers, there is scant attention to the implications of trends in the age structure of the teaching profession and in the supply of new teachers.

There was a huge influx of teachers around the 1970s. Those teachers are now moving into retirement age and will need to be replaced.

The Dawkins higher education revolution a decade ago resulted in the collapse of teacher education infrastructure in some states. For example, the two institutions that provided about 60 per cent of Victorian teacher education graduates amalgamated with universities that did not want large education faculties. Consequently, Victorian graduate numbers halved — with no consideration of schools' long term needs.

## “good policy is evidence-based policy”

These are the major factors underlying projected shortfalls of teacher education graduates (Preston 2000). The projected shortfalls are, at their worst, of the magnitude of about three per cent of the teaching workforce in a State. School authorities may be able to cope with such shortfalls administratively, but the shortfalls will be heavily concentrated in hard-to-staff schools, where students are already disadvantaged and teachers overworked, and in specialisations vital to individuals' and Australia's future.

The policy 'loop' for responding to these issues is flawed. First, the current basis of national policy appears to be a report of the Conference of Education System Chief Executive Officers national teacher supply and

demand working party (CESCEO 1998). Any conclusions that can be drawn from it regarding future shortfalls or surpluses are based on school authorities' responses to an early 1998 survey (primarily concerned with immediate staffing situations), and the report contains no supply projections. Second, influential school authorities have made public statements denying possible shortfalls because of a fear that talk of shortages might support teacher union wage claims. Thus, university administrations, seeking another view on education faculties' arguments for increased intakes and strengthened teacher education infrastructure, get the impression that such arguments have little foundation. There is an irony in school authorities' 'wage-case mindset' — denial of possible teacher shortages works against action to ensure shortages do not occur.

The MCEETYA Teacher Preparation, Recruitment and Training Taskforce has potential — though its terms of reference do not directly address the real policy process with advice to DETYA Higher Education Division and university administrations. In addition, there appears to be no firm move towards overcoming the structural basis of the serious flaws in the CESCEO report (though work by DETYA HED may help).

Teacher workforce planning needs a lead time of four to six years. Good policy is evidence-based policy, and in this area it needs more than vague commitment by one or two stakeholders. It needs serious attention to the type of evidence (data and research) needed, collaboration to make sure it happens, and effective intervention in the real policy process.

## References

CESCEO (1998) 'Draft School Teacher Demand and Supply: Primary and Secondary'. Melbourne: MCEETYA.

PRESTON, B. (2000) *Teacher supply and demand to 2005: projections and context*. Canberra: Australian Council of Deans of Education.

# STANDARDS FOR PROFESSIONAL PRACTICE

*Dr Paul Brock  
Director of Strategic Research  
NSW Department of Education and  
Training*

The greatest challenge we face in school education now and in the future is to conserve that which is of timeless value in, and to transform much of what now passes for, schooling.

One, but not the only, aspect of responding to this challenge in which we will have to move from pious aspiration, impressive rhetoric, and pragmatic impotence, to getting the job done will be the identification, enactment and monitoring of professional standards of practice for teaching: owned and developed by the profession.

● “pressures on teachers are going to increase”

We owe it to ourselves as educators, to our students, to our parents, to our colleagues, and to the wider community to do so. Thereby we could more effectively identify and reward outstanding teachers, help rejuvenate those who may have become stale or ‘coasters’. And, frankly, help remove from the profession any who — despite thorough professional development assistance — remain incompetent.

In a world where citizens who are fortunate enough to be in meaningful employment are experiencing ever-increasing flexibility and, for many, instability of employment; where people are becoming increasingly intolerant of shoddiness within the established professions; and where they are increasingly being assessed on the quality of their own performance and outcomes — parents, students, and society as a whole are going to be more demanding of us professional educators in the next century. And rightly so.

It was alarming, for example, to read claims in the national press some time ago that up to

25 per cent of those teaching science and mathematics in secondary schools in one Australian state are not qualified to do so. Adherence to standards of professional practice by the profession as a whole would render such claims as implausible in the future as they would be were they to be asserted about the legal or medical professions, for example, in the present.

Any attempt to identify and use standards of professional practice for the teaching profession must involve full discussion with, and ‘ownership’ of such standards by, the teaching profession as a whole. It must be firmly grounded in an accurate and comprehensive understanding of the complex nature of classroom teachers’ work. It will need to be consistent with the concept of a continuum from probationary teacher to retirement, and be applicable to all ranks from beginning teacher onwards while recognising career flexibility opportunities whereby people may move into or away from teaching as their lives evolve and change. Professional teaching standards must be flexible enough to celebrate that quality of individuality which is a hallmark of being a professional.

“celebrate that quality of individuality which is a hallmark of being a professional” ●

The pressures on teachers are going to increase not diminish, paradoxically at the very time when the profession, with an average age around 48, is facing the challenges of renewal on an unprecedented scale, not only in Australia but within systems such as those in the UK and the USA too. Renewal not merely with respect to the workforce — but with regard to the nature of education and to the crucial role it must play in advancing the common good.

# LEARNING CITIES OF THE NEW MILLENNIUM

*Professor Denis Ralph  
South Australian Centre for Lifelong  
Learning and Development*

**L**earning Cities of the New Millennium will be places where there are much higher levels of participation in active learning by people of all ages. There will be more exemplary learning organisations where learning is seen as an investment for a highly skilled and flexible workforce to deliver the triple bottom line. They will be thriving learning communities with very strong networks of cooperating learning groups where Lifelong Learning is a goal for all people.

The imperative for Lifelong Learning is now even more important in the new century than it was in the last decades of the 20th century because of the burgeoning developments in:

- information and communication technology
- the emergence of the knowledge economy and the knowledge worker and
- changes in demography and the ageing profile of many societies.

The outcomes of this essential ingredient of Lifelong Learning is illustrated by a vision encompassing:

- Personal fulfilment including personal growth, love of learning, knowledge, skills, values and attitudes, employability, equity and spirituality
- Social development including caring citizenship, quality of life, active participation, cultural richness, and inclusion
- Economic prosperity including innovation, competitiveness, productivity, knowledge economy, ecological integrity and sustainability.

The achievement of these outcomes will shape the learning society.

A focus on the development of learning cities is spreading around the world: from Helsinki to Lisbon, Dakar to Rome, Chicago to Mexico City and to many other places. The UK

Learning Cities Network is established, an Australian network of learning towns is just forming and learning communities are developing across South Australia. The Premier of South Australia has declared Lifelong Learning as one of the key goals for his government and is working towards the development of a learning society in which everyone has the opportunity to learn all their lives.

Learning cities of the new millennium will be at the forefront in knowledge about the new sciences of learning and they will be leading in the application of this knowledge. They will develop a passion for learning by examining the development of the habit of learning, motivation, inter-generational learning, civic leadership and city celebrations of learning. A key strategy for their development will be the identification of any barriers to learning and the removal of these barriers.

Learning cities will build their resilience and their capacity to reinvent themselves by explicitly using lifelong learning principles as they examine the knowledge economy, the changing nature of work and the concept of dynamic cities as engines of growth. They will explore their opportunities, identify any threats and deal with their risks and uncertainties. They will examine employment and employability and global trading imperatives. They will develop innovative resource management leading to competitive local economies on a global trading basis.

Learning cities will actively develop creative potential. They will see themselves as incubators, generators, appliers and distributors of new ideas. They will celebrate new ideas and take risks. They will nurture expansive thinking, invest in creative and artistic processes and develop critical thinking. City leaders will think of new ways of learning and new ways to involve people in the learning process. They will look at new ways of recognising and valuing all kinds of learning within and for the advancement of their community.

Civic leaders will seek to develop strengthened social capital, reconciliation, inclusion, civic partnerships and the weaving of a cohesive social fabric. The most visible change will be a change in the way cities maintain and restructure relationships between the diverse groups of communities that make up their city. Learning cities will keep pace with the rapid technological changes of the digital age and they will develop ways of enabling citizens to apply these new technologies confidently in all aspects of their lives.

As Norman Longworth of the UK has said, 'no city can afford not to be a city of learning.'

But for a city to become a learning city of the new millennium it will require a comprehensive range of strategic partnerships. The Australian College of Education, as one of these partners, can

provide leadership and support in this important initiative by:

- embracing the principles and practices of lifelong learning
- building learning organisations where college members live and work
- creating schools for all ages across this country
- being more learner focussed than institution driven
- supporting community learning initiatives and in a range of other ways.

The creation of Learning Cities of the New Millennium has enormous potential for making a quality difference for people of different cultures, of all ages, living in a range of places and it will have an impact on all aspects of their learning and their lives.

[www.curriculum.edu.au](http://www.curriculum.edu.au)  Curriculum CORPORATION

1000 people visit our website each day  
Are you one of them?

- rated one of the best education websites in the world
- semi-finalist in the Telstra website awards for quality of education content
- consistently rated amongst the top three educational websites in Australia

**Free** pages of online content on the latest educational developments, plus information on our range of school products and services.

Join our CC Club to receive brief, bi-monthly electronic updates on the latest additions to our website and publication list.

Register at [www.curriculum.edu.au/ccclub](http://www.curriculum.edu.au/ccclub)

Curriculum Corporation — Excellence in Educational Resources and Services

[www.curriculum.edu.au](http://www.curriculum.edu.au)

# Quality Teaching Series



## No. 3 Teacher-driven Curriculum or Curriculum-driven Teachers:

*A new look at an old dilemma*

Gregor Ramsey

This paper focuses on the link between curriculum and pedagogy, taking the view that these together are an integrated whole which should direct how teachers are prepared. From an historical perspective, the paper leads to a discussion of the dilemmas facing the teaching profession, education as a preparation for work, the effects of good teaching and the advantages for teachers of establishing themselves as a profession. The conclusion is drawn that teaching should be a high hope profession if it is to have maximum effect on learners.

## No. 2 The Secondary Head of Department: *Key link in the quality teaching and learning chain*

Steve Dinham, Kathryn Brennan, John Collier, Alan Deece and David Mulford

This paper reports on an interview study involving 26 heads of department at four large NSW secondary schools, two government and two non-government. Matters explored include reasons for and influences on seeking the position, positive and negative aspects of the role, elements of workload, origins and nature of leadership style, involvement in whole-school decision making, professional development needs and redesigning the role. Key issues raised by the pilot study are presented for consideration.

## No. 1 Successful Senior Secondary Teaching

Paul Ayres, Steve Dinham and Wayne Sawyer

This paper reports on an interview and observation study of teachers identified from confidential New South Wales Higher School Certificate results as being highly successful. Findings from the study suggest seven key factors in facilitating senior student success: School Background; the Faculty or Department; Resources and Planning; Professional Development; Personal Qualities; Relations with Students; and Teaching Strategies. The influence of each on quality teaching is explored.

### ORDER FORM AND TAX INVOICE

ABN 96 562 879 327

Copies of each of these papers are available from the Australian College of Education  
**A significant discount is available for College members or for bulk purchase (20 copies).**

**Each** — \$22.00 retail; \$16.50 members (prices include postage & handling in Australia, plus GST)

**Any Two** — \$38.50 retail; \$27.50 members (prices include postage & handling in Australia, plus GST)

Name.....  
(please print)

College Membership No. ....  
(required for member discount price)

Postal Address .....

State ..... Postcode .....

**No. 3** No of Copies ..... Amount \$.....

**No. 2** No of Copies ..... Amount \$.....

**No. 1** No of Copies ..... Amount \$.....

Any two (special offer for any two papers)

**Paper**    1    2    3    Amount \$.....  
(please circle two)

**Total Amount Enclosed**    Amount \$.....

#### METHOD OF PAYMENT (please tick)

Cheque    Bankcard    Mastercard    Visacard

Card Number

\_\_\_\_\_

Expiry Date .....

Cardholder's Name .....

Signature .....

**Please send with your payment to the Australian College of Education PO Box 323 Deakin West ACT 2600**

**For details of other ACE Resources, please see [www.austcolled.com.au](http://www.austcolled.com.au) (click on 'Resources')**

**Special Offer — Any two Papers \$38.50 retail; \$27.50 ACE members**

**Office Bearers, 2000****President:**

Ms Susan Pascoe,  
Coordinating Chair,  
Catholic Education Office, Victoria

**President-Elect:**

Dr Ken Boston,  
Director-General,  
Department of Education and Training, NSW

**Treasurer:**

Mr Nick Thornton,  
Chief Executive,  
Australian Principals Centre, Victoria

**Executive Director:**

Mr Jim Cumming,  
Australian College of Education, Deakin, ACT

**Honorary Secretaries of Chapters**

- ACT:** Ms Maryna Goodwin,  
7 Dannevig Place, Florey, ACT 2615
- NSW:** Mr Allan Petersen,  
2 Settlers Boulevard, Liberty Cove,  
Concord West, NSW 2138
- NT:** Ms Cecil Nielson,  
GPO Box 518, Darwin, NT 0801
- QLD:** Mr Bill Parkinson,  
7 Clyde Street, Petrie Terrace, QLD 4000
- SA:** Mr Winton Ankor,  
PO Box 632, Brighton, SA 5048
- Tas:** Ms Vicki Mackrill,  
213 Johns Street, Launceston, TAS 7250
- Vic:** Ms Shirley Allen,  
2/8 Berkeley Street, Hawthorn, VIC 3122
- WA:** Ms Cristina Sandri,  
22 Flamingo Street, Willetton, WA 6155

The Australian College of Education is an association of professional educators. The College was founded in 1959 and aims to foster educational thought and practice through a range of mechanisms including national forums, networks and publications.

**Membership**

The College is a national organisation with Chapter and regional groups located in each State and Territory. Membership is open to teachers, researchers and other educators with appropriate qualifications and practical experience who have shown evidence of further professional development. There are various categories of membership including fellow, member, associate, overseas and retired — as well as companion status (e.g. ACE publication subscribers). Inquiries about membership may be directed to your local Chapter Secretary or to the national Membership Officer located in Canberra.

**Benefits**

Each year, members receive three copies of *Unicorn*, six copies of the bi-monthly tabloid *Education Review*, as well as a 20 per cent discount on most College publications and materials. Other benefits include professional recognition; an enhanced capacity for collegiality and networking; and a strong national Council with demonstrated expertise in voicing the shared interests, concerns and ideas of professional educators.

**Joining ACE**

Please access our website <http://www.austcolled.com.au/about.html> and click on 'How to become a member'. Then, simply download and complete the membership application form <http://www.austcolled.com.au/membership.pdf> and send with your once-only joining fee of \$27.50 to ACE, PO Box 323 Deakin West ACT 2600. Alternatively, please phone (02) 6281 1677 and ask for a form to be mailed to you.

*Join those who have made a commitment to quality teaching, powerful learning and true professionalism!*

# unicorn

*Journal of the Australian College of Education*



**U.S. Department of Education**  
 Office of Educational Research and Improvement (OERI)  
 National Library of Education (NLE)  
 Educational Resources Information Center (ERIC)



# REPRODUCTION RELEASE

(Specific Document)

## I. DOCUMENT IDENTIFICATION:

Title: EDUCATION FOR 2001 AND BEYOND: IMPERATIVES & POSSIBILITIES -	
Author(s):	
Corporate Source: AUSTRALIAN COLLEGE OF EDUCATION	Publication Date: DEC 2000

## II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

The sample sticker shown below will be affixed to all Level 2A documents

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

\_\_\_\_\_

\_\_\_\_\_

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

\_\_\_\_\_

\_\_\_\_\_

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

\_\_\_\_\_

\_\_\_\_\_

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 1



Level 2A



Level 2B



Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) and paper copy.

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, →  
release

Signature: Crauen	Printed Name/Position/Title: ZOE CRAUEN - IT/ADMIN COORDINATOR	
Organization/Address: PO Box 323, Deakin West ACT 2600	Telephone: 62811677	FAX: 62851262
	E-Mail Address: ace@austcolled	Date: 18/10/01

AUSTRALIA

.com.au

(over)

### III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

### IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

### V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:	ERIC Clearinghouse on Educational Management <del>1787 Agate Street</del> 5207 University of Oregon Eugene, OR 97403-5207 Attn: Acquisitions
---	--

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

**ERIC Processing and Reference Facility**  
4483-A Forbes Boulevard  
Lanham, Maryland 20706

Telephone: 301-552-4200

Toll Free: 800-799-3742

FAX: 301-552-4700

e-mail: [ericfac@inet.ed.gov](mailto:ericfac@inet.ed.gov)

WWW: <http://ericfac.piccard.csc.com>