UNIVERSITY BUSINESS: WHO SETS THE LIFELONG LEARNING AGENDA?

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ASTRACT

The changes that have occurred in the higher education system in the past 20 years provide a context for understanding how the pedagogy for massification that has slowly developed to incorporate lifelong learning abilities is now being threatened by information and communication technologies, and the vision of lifelong learning that is driven by economic motives alone.

VISIONS OF LIFELONG LEARNING

Billionaires, bond king Michael Milken and Oracle CEO, Larry Ellison together established Knowledge Universe because, in their view, the 'next big idea was to view education – everything from preschools for 2-year-olds and CD-ROM maths tutorials for high school students to executive training and continuing education for retirees – one vast market' offering a full spectrum of educational products and services to every age group – 'cradle-to-grave' education (Martin 1998, p. 198.) Integration of this vertical market (cradle-to-grave) with horizontal links to edutainment and provision of marketing information for products and services indicates how 'big' this idea might become. Noble (1997) maintains that the vendors of networks, software, hardware and the publishers of digital content also view education as the new frontier for privatisation, a frontier in which Education Maintenance Organisations will replace Health Maintenance Organisations as the objects of colonisation. For some areas of the corporate sector, lifelong learning is seen as an 'industry' worth $655 billion per year (in USA alone) and two-thirds of this is public sector spending (Martin 1998).

According to Gutstein (1999, p. 206) 'Colonizing the education market is one goal of business. A second is to ensure that students receive the training business deems appropriate for the workforce of the future.' This 'economic rationalist' view of the meaning of life and the purpose of education is supported by many in government, for example the Governor of Utah suggests that 'Much of our country's and state's economic success or failure will be the direct result of how well we address the lifelong learning needs of the 21st century' (Leavitt 1999). Brown (2000, p. 6) provides an overview of concepts of lifelong learning in the Adult Learning Australia April 2000 , discussion paper, he suggests that the economic rationale is a dominant interpretation, one articulated in a 1996 European Commission white paper *titled Teaching and Learning: Towards the Learning Society* which 'reiterates the idea that lifelong learning is inextricably linked to economic security.'

This view of lifelong learning follows economic perspectives. Another view promotes personal development that has origins in adult education and efforts to provide people who missed opportunities to take formal education to a high level. Suchodolski (1976, p. 59) suggested that 'the idea of lifelong education has become associated with compensation for deficiencies of childhood and adolescence … a process which could

be initiated at any time in life, as a constant effort towards breaking down of the class barriers of the school system, by means of which an "elite-conscious" society tried to exclude the lower classes.' Martin (2000) maintains that in the late 1990s, a broader view of lifelong learning has developed, incorporating both the economic perspectives mentioned earlier, and humanistic, personal development perspectives first promoted by UNESCO as 'lifelong education' in the late 1960s and early 1970s . Thus lifelong learning should enable people to realise their potential and enhance awareness and understanding of critical issues in public policy (NBEET, *Lifelong Learning—Key Issues*, 1996). Note that here the object of personal development is personal awareness and understanding rather than action and change

A third perspective is hinted at in the UNESCO Delors Report (1996) which focuses on another reality—the need for lifelong learning to promote social cohesion and democracy, and the need to address the problems of growing inequality between nations, regions and social groups in both rich and poor countries. The Australian National Training Authority (to its expressed economic perspective of lifelong learning) adds an emancipatory perspective—the need to develop a 'lifelong learning ethic', a focus on social cohesion and development of a civil society. ANTA (2000, p. 19) identifies one of four pillars of lifelong education to be 'learning to live together, and with others', to avoid or peacefully resolve conflict and to share common projects. This emancipatory view of lifelong learning hints at a more political perspective reflecting Freire's call for education that offers learners the cultural tools they need to emerge from a 'culture of silence' and become active participants in development of society (1972, p.17). Monbiot (2001) argues that education for life is ongoing emancipation, reminding people that democracy is a dynamic, participatory process rather than a condition of society: 'Democracy is not sustained by the system that describes it, it's sustained by the challenges to that system, because as soon as you stop challenging, then that system scleritises and succumbs to corruption. And what that means really is constant trouble. There's no utopia, there's no safe shore, we can't trust any government to keep things in a situation in which it's going to make people content and prosperous and happy. Politics is all about the dynamic, and that dynamic means constant bellyaching from the likes of us.'

FRAMEWORK FOR ANALYSIS

How do these three perspectives influence the practice of education for life? Habermas provides a useful framework for thinking about the issues, a framework that reminds us about and invites us to analyse and use the best features of each perspective rather than to adopt a polarised stance that rejects other positions. This framework can be applied to develop and justify pedagogical strategies that promote real learning.

In three areas of human social activity–work, language and the exercise of power–Habermas identified a particular cognitive interest that guides production and sharing of knowledge:

- **technical** cognitive interest relates to the use of knowledge in exercising predictive control over the world by leaving aside questions of values in order to objectivise natural processes and social processes like those involved in work, that produce the goods and services needed to maintain life and society. This cognitive interest relates to the economic view of lifelong learning.
- **practical** cognitive interest relates to the use of knowledge in the subjective world of individuals and their meaning making required for practical consensual action,

and for the preservation and expansion of culture and traditions that provide a base for mutual understanding. This cognitive interest relates best to the personal development view of lifelong learning.

- **emancipatory** cognitive interest relates to the use of knowledge in sharing power over human activity and the capacity of individuals to reflect independently and responsibly on social activity and to develop a sense autonomy (Smith & Lovat 1990, p. 68). This cognitive interest relates best to emancipatory views of lifelong learning.

Each of these three areas of social activity and their related cognitive interest adopts a particular mode of inquiry to produce the kind of knowledge that is seen as legitimate to that cognitive interest, and each of these modes of inquiry follows particular logic and methods. Further, each of the three areas of social activity has a particular educational orientation. The table below is a summary (Jakupec 1996, p. 20).

Table 1: Cognitive interests (Ways of knowing)

Field of social activity	(technical) work	language	power
Cognitive interest	*technical*	*practical*	*emancipatory*
Legitimate inquiry mode	empirical-analytical	historical-hermeneutic	social-critical
Educational orientation	technical-vocational	liberal-humanist	emancipatory

The three ways of knowing (cognitive interest) are associated with their particular fields of social activity and their related cognitive interests, modes of inquiry and educational orientation. Each way of knowing requires a particular approach to teaching and learning as Table 2 below indicates.

Table 2: Educational processes and cognitive interest (based on Jakupec 1996, pp. 21-27)

Ways of knowing	technical	practical	emancipatory
Purpose of education	Effective and efficient performance of occupational tasks to ensure socioeconomic survival and promote techno-scientific progress	Share cultural and social values, develop the mind of the individual, enhance personal growth, intellectual, moral and social development	To reflect on and reconstruct social order, develop personal autonomy and develop social consciousness that frees the learner from predetermined social constructs
Role of learner	Accept predetermined, prescribed objectives and learn pre-defined content	Share and develop conceptual and theoretical knowledge, become a self-directed learner	Engage in broad discursive partnerships, reflect critically on social situations, and take responsibility, make commitment, take action
Role of teacher	Transmit objective, legitimate knowledge Control and direct learning	Guide and facilitate learning, select and structure learning experiences	Support development of learner autonomy, become a partner in learning
Function of interaction	Identify and eliminate misconceptions	Discuss and share to develop meaning and understanding	Provide a means of mutual support between teachers and learners
Assessment	Give correct answers and use the right procedures	Show development of understanding	Show development of critical reflection in action

All three ways of knowing overlap to some extent in day-to-day human activity and in any subject area or discipline. For example a professional design or a production process will involve participants in the use of technical knowledge, but effective communication and teamwork in this area will involve use of knowledge for consensual practical action, may involve individuals in autonomous decision making and in action that influences others. Design and practice of education in any field should take a holistic approach and adopt pedagogies that address all three ways of knowing in an appropriate and balanced way to achieve significant learning outcomes. However as with the three perspectives of lifelong learning identified above, much educational practice is polarised towards just one way of knowing.

This is a problem at the heart of much of the debate about the role of technology-based distributed learning in the information society, about the lifelong learning needs of business, individuals and society, and about the role of higher education—the tendency to see all knowledge and needs from a single viewpoint. For example businesses which are under pressure to maintain training levels of their workforce in a dynamic environment focus on the 'need for speed' and instant returns on learning effort. Spender (2001, p. 23) cites corporate concerns about the limited 'shelf-life' of information in the digital age and concerns about the ' need for the most up-to-date information rather than the most authoritative or the most enduring'. Spender advocates adoption of online education solely because it is the 'only way' to provide quick access to information, because it provides for Just-In-Time learning and quick returns on effort. She expresses concern about the lack of responsiveness of traditional university education, suggesting that learning and earning have become so integrated that learning 'which is divorced from earning–(and much university knowledge has traditionally been in this form)–can be regarded as irrelevant and inappropriate.' (p. 23). Such a limited conception of knowledge fails to fully understand the context of business in the post-industrial age. It also fails to recognise that each different way of knowing proceeds at its own pace.

Spencer's view contrast with comments from the Higher Education Council. 'This idea of latency and unpredictability is extremely important to a discussion of quality in higher education… akin to planting a series of time bombs in the minds of graduates, They go off unpredictably … leading to surges in performance … to new ways of doing things, and further advances in the search for knowledge or its application.' (HEC 1992, p. 26). Spender's 'shelf life' concept of knowledge seems to identify technical knowledge as the only real kind of knowledge; the quote above from the HEC suggests a very different way of knowing that relates to emancipatory interest.

Habermas' analysis begins with three fields of social activity–namely work, culture (especially language) and the exercise of power–that relate to three different kinds of knowledge described above. As individuals and as a society we have an interest in all these areas of human activity, education seeks to provide us with the knowledge we need to operate effectively within and each area and across the three areas. Habermas' analysis suggests that these three areas of knowledge are inherently different. Teaching and learning approaches that are effective for teaching technical knowledge will not work for education in practical or emancipatory knowledge. (See Table 2.)

PEDAGOGY FOR A MASS HIGHER EDUCATION SYSTEM
A major challenge for improving learning experiences and learning outcomes in higher education today is the development of a holistic approach to pedagogy when forces are

drawing universities in different directions. Driven by changes in society, the three perspectives of lifelong learning outlined above our pedagogy. These external influences are compounded by internal changes, by the transition of higher education from an elite to a mass system of education, by new technologies in education and the increasingly dynamic nature of knowledge (Ratcliff 1996, p. 15).

Teachers and learners in universities have been adjusting slowly to the demands of massification and have begun to develop pedagogies that provide a balance between the economic, personal development and emancipatory requirements of lifelong learning. But just as institutions are beginning to adapt pedagogy more or less effectively to changes introduced by 'massification', these positive changes are being placed at risk by pressure to adopt the new information and communication technologies in teaching. Technology advocates and their corporate missionaries promote a strong economic perspective of lifelong learning and pedagogy that relates to Habermas' technical interest in knowledge as 'value-free' content. This represents a movement away from pedagogy more appropriate for a mass higher education system (i.e. holistic pedagogies in which learners are active participants), towards prescriptive, atomistic content-based pedagogies that may be suitable for parts of the learning experience, but are generally inappropriate as a curriculum framework for undergraduates' experience of higher education.

The changes that have occurred in higher education in the past 20 years provide a context for understanding how the pedagogies for massification have begun to develop and is now being threatened by technology. Between 1987 and 1991 Australia's population increased by 5%, however the number of Australians in higher education increased by more than one-third from 394,000 to 535,000 (Marginson 1993, p. 13), the number is now approaching 700,000. Trow (1974) identified transition phases in the growth of higher education systems, transition phases in which expansion leads not only to larger systems but to systems that are fundamentally different. Trow identified one transition from a 'traditional elite' to a 'mass' higher education system which occurs when the participation rate passes through the range 15% to 25% (Skilbeck, 1993, p.19). For systems in transition, 'graded inputs need not simply yield graded outputs. Instead, systems often resist change and absorb stresses to a breaking point, beyond which a small additional input may trigger a profound change of state... Our metaphor about straws and camels' backs reflects an implicit understanding that not all change is continuous' Gould (1987, p.209). Predicted major differences between elite and mass systems include: the proportion of the age group enrolled, homogeneity of the student body, learners and teachers expectations of higher education, principles for selecting students and appointing teachers, careers of a typical students, forms of university governance and administration Trow (1974). The goals of a mass education system include the 'traditional elite' goal of transmission and extension of knowledge, but goals are expanded to include: adaptation to a greater diversity of individual needs and aspirations, facilitation of lifelong learning, promotion of greater equality of opportunity, and contribution to solution of community and social problems (Smith, 1993).

Biggs (1999) argues that the traditional elite higher education system was highly selective, the student population was relatively homogeneous in age, experience, culture, social status and educational background. Students generally had what he calls an 'academic orientation'; they had the skills and motivation required to succeed.

'Traditional methods of teaching, lecture followed by tutorial, gave the appearance of working well enough.' (Biggs, 1999, p.2). However many students in our mass higher education system have not the learning skills required to succeed when the teacher uses traditional lecture methods (Ratcliff 1996). They tend to adopt surface learning approaches that focus on memorisation to pass assessment requirements, rather than on deep approaches to learning that seek to understand the world in context. The surface approach is adopted because the 'culture of the school' encourages what Engestrom (1991) calls 'encapsulated learning' intended to meet the requirements of the education system rather than the requirements real-world learning.

The pedagogical response of the higher education system to this transition has been slow and steady (DEST 2002, paras 37, 38). There has been development of a 'pedagogy for massification', that seeks to provide students with a learning culture that engages learners in the world, focuses on learning and development of generic abilities that support a capacity for lifelong learning. Changes that have begun to occur include:

- a focus on student learning (Biggs 1999, Doherty 2002)
- providing holistic learning environments (NASULGC 2001, Doherty 2002)
- explicit development of generic abilities (IEAust 1999)
- a development approach to learning (Doherty 2002, Ratcliff 1996, Perry 1988,)
- coherent curriculum structures (Ratcliff 1996, Doherty 2002)
- alignment of learning outcomes, assessment and learning activities (Biggs 1999, Doherty 2002)
- better assessment–program outcomes based assessment (IEAust 1999), criterion-based assessment (Biggs 1999), performance-based assessment (AAHE 2001)
- pedagogical thinking, scholarship of teaching, reflective teaching (Biggs 1999, Doherty 2002).

Taken together, these changes lead towards development of a pedagogy that addresses two challenges, not only the traditional challenge of transmitting content (for the homogeneous group of academically inclined students of earlier times), but also the development of the whole person with skills needed for lifelong learning, the practical personal development skills and a secure emancipatory capacity for responsible, autonomous contribution to civil society.

The Bachelor of Engineering program provides an example of how 'pedagogy for massification' has been applied in one program at Central Queensland University. A high attrition rate showed students were having problems with the 'traditional' content-based engineering program. Employers were not satisfied with the skills graduates possessed. A major review was undertaken with the support of the professional body, the Institution of Engineers Australia. The Institution was in the process of preparing a new approach to professional accreditation that would require universities to show that their engineering programs produced graduates with the generic, lifelong learning attributes as well as traditional competence in specific discipline areas. As a result, a hybrid problem/project-based learning program (PBL) was developed. Half the scheduled program time is spent on project work designed to develop and assess generic attributes. Projects are team-based, open and unstructured to encourage students to take personal responsibility for developing learning to learn skills, in this way the project courses are like mini-research projects. The program was structured to provide students with support for initial development of generic attributes, for example all students and staff participate in a one-week team-building induction program before formal studies

begin. Further development of generic abilities continues with a major project in each term. Project teams receive regular guidance from academic staff and each year level in the program has a 'home room' with facilities and resources for project work, team meetings, general study and social interaction. Project teams present their completed project to their peers and academic staff for assessment. In addition students spend two 24-week periods in full-time, arranged, paid employment in Year 3 and Year 4 of the four and a half-year program. During their work placements, students undertake distance education courses that build work management skills they are using in their workplaces, and at the same time they are developing independent learning skills. Final assessment is based on each student's portfolio showing their performance in PBL projects, independent study courses and work placements plus a holistic assessment of two major final year projects.

A key distinction between the original, traditional program and the new PBL program is the holistic approach to development of generic lifelong learning abilities and assessment. The traditional program involved study of six to eight courses each term thus learners' attention was divided between this large number of courses. The large number of courses allowed allocation of only a short amount of time to each course, providing little flexibility or opportunity to develop generic skills. The attention of learners was on the next assignment or exam, these provided frequent deadlines and little time to consider how different courses in the program related one to another. The result was an 'atomistic'(Ratcliff 1996, p.15) and content-based program structure consisting of numerous seemingly independent courses that were assessed independently. Teachers and students considered their courses as stand-alone tasks, obstacles to be overcome. Students gained little sense of personal development. It is not surprising then that Bricknell's survey (1998) of students' perceptions of generic skills found that students thought that leadership happens when you start working, it was not seen as something that could be taught; professional proficiency was required at work but not at university; and teamwork 'is emphasised in the course so it must be important' (p. 4).

Ratcliff (1996, p. 5) maintains that 'Curriculum coherence was never an expectation of an academic culture where individual faculty decide what they wish to teach and individual students decide which lectures and seminars to attend and what they wish to learn.' Such arrangements may have been appropriate in a traditional elite system with a limited choice of courses and a well-prepared, motivated and homogeneous student body, but we face a different reality. The response of the Australian Council of Deans of Education (2001, p. 61) to the reality of education today is a 'new frame of reference for learning—lifelong and lifewide—also changes what formal educational institutions should be teaching … Old learning focused on fixed content knowledge ... to last for life. The new learning is more about 'shaping a kind of person' a person with generic abilities as much as content knowledge. These kinds of capacities are at a much higher level than what was measurable by old-style tests of fact and theory'. Development of new methods of formative and summative assessment of students as 'persons' with (or without) required abilities and attributes like a 'professional approach' to their work has presented some challenges for teaching staff in the Bachelor of Engineering program.

In the PBL engineering program structure, students undertake two 'traditional' lecture/tutorial courses and one major project each term. The structure of the program is designed to encourage progressive and coherent development of both specialist content

knowledge and skills, and generic abilities sithin each term and longitudinally form term to term. The program design accepts that generic abilities can not be 'taught' in the sense of transmission from lecturer to learner, these skills are emancipatory, they are learned more than taught, and the learning process is not predictable because it involves maturation on the part of the learner. Perry (1988) made this point in his longitudinal study of the cognitive and ethical development of undergraduates at Harvard, he identified nine stages of development and the students in any class were distributed over a number of stages.

Experience with the CQU engineering programs supports Perry's findings. It is not sufficient to simply nominate a generic ability [like 'ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with a capacity to be a leader or manager as well as an effective team member' (IEAust 1999, generic attribute (f), p. 10)] and expect first-year students to develop such skills. Effective learning of generic attributes requires structured development. In the case of teamwork, reasonable expectations of first-year students would require them to act, reflect on and share their experiences and concepts of teamwork, and begin to develop frameworks for thinking and talking about behaviour within the team to improve teamwork, but not to ask them to work as a team on a complex, six-week project. 'Teaching' generic abilities involves strategic development and support of learning activities to provide opportunities for learning and maturation from course to course throughout the program. Development of skills requires time to allow skills to mature. 'This idea of latency and unpredictability is extremely important to a discussion of quality in higher education… akin to planting a series of time bombs in the minds of graduates, They go off unpredictably … leading to surges in performance … to new ways of doing things, and further advances in the search for knowledge or its application.' (HEC 1992, p. 26). This idea of latency and maturation can be applied to discipline knowledge as well as to generic attributes, it is implied in Biggs' five-stage framework for understanding understanding–prestructural, unistructural, multistructural, relational, extended (1999, p. 47). It will be interesting to evaluate the new engineering PBL program as the first cohort of students graduates in 2002. Initial responses from employers have been very supportive of the new program, and a benchmarking process is being implemented evaluate changes from the old to the new program.

Successful pedagogy for a mass higher education system that accepts students with diverse backgrounds, different experiences and different degrees of preparation for study requires approaches that allow for latent effects, time to mature. It requires carefully structured curriculum and close collaboration of academic staff to develop a pervasive culture of learning in which learners understand where they are going, in which learners can watch themselves grow. Teaching staff should be 'responsible for learning across the institution, not just for their individual courses, disciplines, or specific areas of expertise.' (Doherty 2002, p. 24).

The 'pedagogy for massification' described above is also a pedagogy for lifelong learning. The idea that education is not just about content, that students should be aware that their course seeks to develop their personal abilities, that students should recognise the progress of their development and that students can take responsibility for developing personal abilities prepares them to continue lifelong learning after graduation. This process provides learners with conceptual frameworks and foundation experiences that can be the basis for further development.

PEDAGOGY VS. TECHNOLOGY

National Association of State Universities and Land-Grant Colleges has stated that 'The concept of lifelong learning has been talked of before, but, for the first time, we have the technological means to make it a reality' (NASULGC 2001, p. 22). There is little doubt that universities can use new education technologies to promote access and to provide education throughout adults' lives. Technology also encourages re-evaluation of pedagogy (DEST 2002, para. 52). However neither recent development of online university courses nor business rhetoric about development of virtual universities provide any confidence that technology will be used to build holistic online learning cultures and a structured curriculum required to promote systematic development of lifelong learning abilities in virtual learners. The following comment from the Governor Leavitt (1999, p.2) of Utah about the Western Governors' University is instructive in this respect; 'We simply must align our public policies with what is occurring in the marketplace … the inexorable forces of advanced technology will drive many of the changes contemplated … Governors have taken the lead in this project not because they are education experts, but because it will take enormous political clout and some pretty good battles in the public policy arena'.

The WWW is a powerful medium for transmitting and accessing information. Unfortunately many teachers are massaged by the medium or remain in the rut of traditional-elite teaching. As a result many online university courses use the technology primarily to transmit content and to provide (search) access to content. With no other learning activities, such courses promote the old teacher/content centred pedagogy. Many administrators and teaching staff feel pressure to get courses online, the pressures of progress (Noble 1997, p. 2), there is a perception that getting course content online is good teaching. As a result courses are developed in a piecemeal fashion that shows few of the features of 'pedagogy for massification' required to promote lifelong learning abilities. In effect the new technologies are a distraction, drawing attention away from required curriculum reform (Ratcliff 1996).

While some teachers do appreciate the pedagogical value of communications technologies associated with the WWW, at present bandwidth problems limit general use to email and discussion lists. These technologies seem to be most appropriate for postgraduate programs where a more homogeneous group of academically mature students are already comfortable with the medium. The capacity of the WWW to combine content, search facilities, group and individual dialogue and sharing of documents and resources makes it a potential tool offering a cohesive and balanced pedagogy. However most online courses that make effective use of all these tools seem to be designed as independent courses rather than as a coherent suite of courses designed to promote development of lifelong learning abilities. A balanced pedagogy would need a coherent curriculum design incorporating developmental learning activities that address technical, practical and emancipatory ways of knowing, and incorporate the three lifelong learning perspectives identified earlier in this paper.

While lack of coherent program design is a problem for online course development it is a greater problem for most on-campus courses (Ratcliff 1996). The coherent design of the engineering program at CQU is not typical of other University programs. Many courses still apply traditional lectures/tutorials to a transmission approach to face-to face and distance teaching. The new online offerings are more visible and many use the same

approach. If lecturers tend to apply the traditional transmission model of teaching, one may excuse the public, and even the technology advocates, entrepreneurs and government agents for failing to understand higher education and how it should be done. If they are led to believe that education is simply the process of distributing content, like customised broadcasting to people who have (or will have) disposable income, can we wonder that business feels it can be a player in the higher education industry. Such misconceptions of the learning process are exacerbated by enthusiasts for industrialised education who promote development of 'automated courseware production systems, automated pedagogical advice systems, and automated business systems' that solve the economic problems of mass higher education with a promise of 'institutional variable costs approaching zero' (Taylor 2001, pp. 2, 3). Such forms of education address economic needs and technical interests but fail to appreciate the needs of practical and emancipatory human activity.

PEDAGOGY VS BUSINES

So we have Spender (2002, p. 23) suggesting that 'Content, information, data, body of knowledge—which is divorced from the earning—(and much university knowledge has traditionally been in this form)—can be regarded as irrelevant and inappropriate to young people.' However Spender's suggestion does not lead to demands for education better related to work and life, it leads to support for a view that limits knowledge to Habermas' technical interests alone, and limits lifelong learning to the economic perspective—(p. 22) 'there is only one thing universities have to sell—IP' (intellectual property). Spender's view is not all pervasive in the economic sphere, for example the Institution of Engineers have developed a comprehensive framework of generic attributes required of graduating engineers, a framework that includes technical, practical and emancipatory interests (IEAust 1999, para. 4.2.4 Program Objectives). Unfortunately the rhetoric of the technology advocates generally values just one perspective (economic) and one way of knowing (technical). In discussions about lifelong learning and the knowledge economy, hardly any thought has been directed to the purposes of education beyond providing skills industry wants' (Gutstein 1999, p. 229). In doing so, industry maintains public misconceptions about the nature and purpose of education, and makes it more difficult to continue to develop a cohesive curriculum that promotes effective development and maturation of lifelong learning abilities. Comments like:

- 'the shelf life of knowledge can be so short that the only effective way to meet the demands of learning is to deliver it online' (Spender 2001, p. 23)
- the notion that 'universities have a very narrow notion of a student; this is apparent when it is recognised that just about every member of society is turning into a leaning shopper, looking for information' (p. 22)

indicate views of education as just-in-time transmission of content and as a commodity are problematic because they promote an 'atomistic' curriculum that may maximise cash flow but is unlikely to provide learners with the coherent and effective pedagogy required to develop generic abilities. Noble provides a critical view of business interests influencing change in higher education, 'this transformation of higher education is not the work of teachers or students, the presumed beneficiaries of improved education, because it is not really about education at all. That's just the name of the market.' (1997, p. 3).

Spender goes on to suggest that e-learning will become big business in the 21st century, second to health care (p. 21) and that universities 'can still elect to redirect their efforts

to get into the continuing, distance, corporate, vocational, lifelong learning or leisure markets … if that is their priority (p. 26), but unless universities change the way they operate, consumers will go to private providers. Leavitt (1999) maintains that argument, advising that public universities may ignore the advocates of e-learning a little longer, but universities will be seen as a rock in a river, 'Events will flow around us, wearing us down in the process' (p. 5). 'In the view of capital, the universities had become too important to be left to the universities.' (Noble, p. 2).

CONCLUSION
The challenge for universities is not to restructure the institution in order to compete in this one-dimensional e-world that proclaims 'I shop therefor I am' (Robinson & Garratt, 1996, p. 116). September 11 is a challenge everyone to look beyond the economic perspectives of lifelong learning and technical know-how, towards personal development perspectives and practical ways of knowing that promote understanding of self and others, and towards emancipatory perspectives that may suggest better ways to change, to civilise our world. Just as learning itself should be lifelong and lifewide, the curriculum experience we offer learners should be courselong and coursewide (i.e. it should progressively develop and mature generic abilities from day one to graduation; should cover all lifelong learning perspectives, economic, personal and emancipatory).

Universities must communicate to the public that education is their business, and this serious requires universities themselves to learn to practice before they preach, to embrace curriculum reform, to adopt of pedogogies for massification and lifelong learning.

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