## Life, Learning and Flexible Delivery

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INTRODUCTION The general thesis of this paper is that flexible learning is a critical development in assuring high quality educational provision for individuals at all stages of their lives, but there are significant dangers that the potential of this approach to the delivery of learning opportunities will be compromised by the actions of education professionals. To establish this position it is necessary to understand what is meant by a concept central to our present conference theme, that is, flexible delivery. The reasons are fairly obvious. First, if people at all ages are to derive something of value from a particular approach to educational delivery, then it must in part be a product of the characteristics shaping it which distinguish it from other forms of delivery that adds this apparent value. Second, we need to understand whether there are similarly distinctive characteristics of or requirements for education throughout life, and specifically beyond the walls of our familiar teaching institutions, that are likely to be best served by flexible delivery. Finally, we need to consider the role of the educational professional in relation to both lifelong learning and flexible delivery to determine whether what educators are doing now with flexible delivery makes it likely that its potential for serving a larger function is being circumscribed.

I want to unpack this introduction. First, why do I say that flexible delivery is a critical development for learners at all stages of their lives? In part this is pre-empting the discussion of what we mean by the term and the characteristics which shape it, but in general the importance I place on this development derives from (1) the shift in power relations it affords for teaching and learning, and specifically the passage of control to the learner from the teacher, (2) the use it makes of developments in

communications technology which are shaping all other aspects of our lives, and which have been relatively slow to make an impact in teaching institutions beyond compulsory levels of schooling, and (3) its recognition that the context within which structured learning is to occur is more likely to be informal rather than formal, that is, learners will study at home or in the workplace or wherever suits them, even when taking programmes from traditional providers.

Second, why do I see the potential of flexible learning being compromised by the actions of professional educators. The answer will be developed below, but it involves the shift in power relations mentioned above and this has a number of dimensions, two of which I will refer to here as the structural and the psychological. The first involves the very establishment of educational institutions as assessing and certifying bodies and the need those within them perceive to establish conditions through which the validity of their certification can be maintained. The second involves the individual teacher and the strong dimension of personal control as a driving force in teaching. This is hardly a new idea, but my experience strongly reinforces the notion that one of the strongest threats that can be presented to individual teachers is the prospect that they be moved from the central position in the management of others' learning.

GENERATION GAP There is the further dimension at the present time of a possible generation gap between learners and teachers in relation to processes of communication. By this, I mean much more than the differences between younger and older people in our societies in the acquisition of computer literacy, although this is critical. It also has to do with

how people source, access and disseminate ideas. This came home to me markedly while listening to a radio debate about Helen Garner's book, The First Stone, a fictionalised account of an actual sexual harassment case at the University of Melbourne's Ormond College which has polarised feminists in Australia. Garner and Anne Summers, a prominent publisher and former women's advocate, were debating women's responses to the book in terms of feminist theory with two younger women, one a student activist and the other a disk jockey on ABC radio's alternative rock station, Triple J. The age gap between the two pair of women was approximately thirty years, that is the older women were about my age! Two points struck me with some force. First, the older women did not know of the younger, although the reverse was not true, despite the fact that one of them is a leading performer on national radio with one of the largest listening audiences in Australia. Second, the older women implicitly criticised the younger for not publishing their views and representing the perspectives of younger women. But, of course, they had done so, on popular radio and through the Internet, both media the older pair did not access. What became equally clear is that, unlike Summers and Garner, they saw those media as much more contemporary sources of ideas than the books and journals the older women regarded as appropriate for disseminating and accessing information and opinion. What was particularly telling was that Summers and Garner, both successful professional communicators, appeared not to recognise that the Internet in particular was a primary source of intellectual exchange for the generation behind them, rather than simply an additional means of dissemination beyond the literary sources they turned to for reference.

I have spent some time on this anecdote, for my experience in university distance and open learning, and more recently in TAFE, persuades me that is generational difference is quite patent amongst educators and their students and, I suspect, likely to become a significant barrier to the opportunities for flexible delivery that developments in communications technology offer.

Two points need to be made at this juncture: first, flexible delivery is, in my view, very much in the hands – and the control – of professional educators, that is, those who deliver teaching programmes within our conventional schools, vocational education and training colleges, and universities. I say this because flexible learning is centrally a delivery issue and this is where teachers and lecturers have made a determined bid to stake their claim within the educational process, although this is not as strongly the case in the vocational education and training sector. Further, there have been real pressures on teachers to adopt flexible delivery and those who have responded will have strong commitment to their new practice. The funding authorities of public education have tended to pursue flexible delivery as a national strategy in an attempt to reduce the unit costs of teaching (DEET, 1994a). Individual institutions have sought similar savings from the extension of techniques developed in distance education into on-campus teaching under the flexible delivery banner. Such pressures are accompanied by a legitimising rationale which is strongly defensible in educational terms. It is not surprising, therefore that teachers and academics, as Ted Nunan (Nunan, 1994) have pointed out, have made either a pragmatic or ideological commitment to use flexible delivery strategies. What is more, having made such a commitment, because teaching is such a highly individualised activity and lacks a technical culture, the new strategies staff have adopted will carry a significant personal commitment.

I do not think this influenced by whether such institutions are privately or publicly funded, although there is probably an argument that some private providers are concentrating on a niche market involving technologically driven and individualised study programmes created by the inflexibilities of public providers. However, there are other resource issues which make it difficult for small providers to move to flexible delivery.

At one level, this is highly desirable. Despite the concerns raised above about teacher control as an issue in flexible delivery, there is no doubt in

my mind about the general desirability of learning programmes being shaped in terms of their purposes, content and strategies to support learning by those who have a professional understanding of education as a social force. In other words, despite the cautions raised here, I do not want to see control of learning wrested from educators simply to pass into the hands of politicians, press barons or the entertainment industry. Clearly, I would argue that more power should pass to learners, with a reconceived role for teachers in facilitating the learning process. That brings me to the second point, which concerns the significant questions that need to be asked about the role, if any, of professional educators in lifelong learning. This will be taken up below when we have clarified what we mean by flexible delivery and lifelong learning.

**FLEXIBLE DELIVERY AND LIFELONG LEARNING** For the purposes of discussion, I have adopted the definition of 'flexible delivery' used in an Australian document, Flexible Delivery: An Overview of The National Framework for Implementation in TAFE. The base document was endorsed by the National TAFE Chief Executive's Committee in November, 1992. This is not intended to be parochial on my part. The paper was prepared after two years of national investigation and consultation in Australia during 1991 and 1992 and represents a very comprehensive summary of current thinking in the field. The definition used is:

Flexible delivery is an approach to vocational education and training which allows for the adoption of a range of learning strategies in a variety of learning environments to cater for differences in learning styles, learning interests and needs, and variations in learning opportunities.

Three comments need to be made. First, I think we could substitute any level or area of education for 'vocational education and training' without altering, the force of the concept of flexible delivery advanced in the

definition. Second, the critical orientation of the definition is to catering for diversity. Generally, this takes two forms, which can be related: the maximisation of choice over the elements which comprise the total learning situation and the use of flexible arrangements to pursue access and equity objectives. Third, the definition begs the critical question of whose approach we are considering. It remains silent on the related matters of participation, purpose, planning, and permission in the educational transaction. This is not just playing with words, for the idea of an approach which allows a range of learning options to be exercised is predicated on the notion of an authoritative decision-taker.

Let me expand this a little. The word approach in this context is being used in the sense of method or steps taken in setting about a task which in turn suggests the deliberate adoption of a set of arrangements which is intended to bring about some desired end. What is of interest is whose intention that might be. It is evident, I suggest, that it is not intended to be that of the learner. The point I am trying to make here is that even in this very broad definition of flexible delivery, there is a clear indication that the learning opportunities afforded by a particular programme have to be planned by someone other than the learner. That is, there is a critical role in flexible delivery for the professional educators, whether we think of that person as a curriculum developer, educational planner, or teacher. Those labels do not mean the same thing, of course, but I am trying to avoid the notion that the educator's role is unambiguous in flexible delivery.

The TAFE document identifies seven characteristics of flexible delivery:

- flexibility in terms of entry, programme components, modes of learning and points of exit
- learner control and choice regarding the content, sequence, time, place and method of learning
- appropriate learner support systems
- the application of learning technologies where appropriate

- access to information on courses and services
- access to appropriate learning resources
- flexible assessment processes

A number of observations can be made about this list. First, it is obviously describing flexible delivery from the point of view of existing provider institutions. Thus, it carries the explicit assumption that existing courses will be used, that there will be a system of learner support, that some authority figure will determine that constitutes an appropriate application of learning technologies, and so on. Now, this is not surprising, given the source of the document, but the list also demonstrates the confusion of ideology and practice when definitions and defining characteristics are developed to take into account existing educational systems.

For example, consider the tension, if not contradiction between the first two characteristics. The first allows flexibility over programme components, which presumably is a requirement of the providing institution, while the second gives control over content, sequencing and other course components to the student. If these two are taken to operate together, then the only control a student has is to exercise choice between predetermined options, which is not control at all. Indeed, the second characteristic distinguishes between control and choice, although to what end is not really now clear. Take another example. The second characteristic gives the student control over the sequence of programme components, but presumably this is constrained by the information provided about courses in characteristic five. And how much control does a student have if someone else determines what learning technologies and resources are appropriate?

Now, this seems to be fairly sloppy thinking. To understand why a major document, the product of considerable work, presents such a confused case, it is worth looking at the antecedents of flexible delivery and how they have been taken up in the paper. These include distance education, developments in open learning

theory, and changes made possible by developments in communications and computer technologies.

ANTECEDENTS OF FLEXIBLE **DELIVERY** Distance education, itself a development from correspondence education, has become established over the last quarter century as a legitimate dimension of conventional course provision at all levels of formal education. Of course, this sentence has immediately to be qualified. The legitimacy is still contested in some conventional educational institutions and by individual teachers in those schools, colleges and universities where distance delivery is a substantial part of overall course provision. Further, the quarter century is a rough approximation to the period of significant growth of new institutions, such as the great open universities of Asia, the consolidation of external studies in tertiary education in North America, Australasia, South Africa and in Europe. It certainly encompasses the period of significant academic publishing in the field. This is not to diminish the much longer involvement in correspondence education of many institutions around the world and, drawing on my own experience I think immediately of the Schools of the Air in Australia, the external studies provision of TAFE through which I pursued matriculation in the mid-sixties, the offcampus programme of the University of Queensland which commenced in 1911, and the later but formative influence of the University of New England which set the pattern for distance education at university level in Australia.

Two things need to be said. First, most attempts at flexible delivery in conventional provider institutions have their base in existing distance education infrastructure and practices. This is not surprising. Typically, distance educational providers have three infrastructural elements which are highly supportive of flexible delivery: an administrative mechanism for dealing with students who do not access educational programmes in the conventional way, a capacity to produce learning resource materials, and a student support system. The application of

distance teaching capacity to flexible delivery is explicitly discussed in the Jevons and Northcott report, Costs and Quality in Resource-based learning On and Off-Campus, (NBEET, 1944b). MacFarlane (1992) in a recent report, Teaching and learning in an expanding higher education system, summarises the situation from a UK perspective:

With the transformation of higher education into a system that is adapted to servicing the needs of much larger numbers comes the imperative to develop much greater flexibility. Distance and open learning methods – long practised by the Open University – free students from the constraints of time and place, and even allow for more individualised feedback to students than could be contemplated within the traditional university teaching system.

Second, there is a direct link between the underlying assumptions of distance delivery and moves to introduce flexible learning. Experience suggests that conventional universities move to distance provision for one or more of the following reasons:

- course or subject viability
- raising the profile of a teaching area or institution
- reducing the unit costs of teaching
- deploying staffing capacity
- to enable collaborative ventures
- marketing educational courses and services
- enhancing quality
- access and equity considerations
- passing educational control to students

Of course, these are very different in nature, the first six being essentially pragmatic considerations for a provider institution, with the remaining three having strong educational and normative underpinnings. Ted Nunan (1994, 5) argues for flexible delivery on such educational grounds:

The question of improving practices to promote quality learning depends upon our ability to structure a teaching and learning environment – that is, upon our ability to see quality learning as a matter which depends on more than teaching as it also involves the physical and communication resources of the environment, the access to support for learning and resolution of learning difficulties, and the student's approach to learning. Promotion of quality learning involves looking at the ways in which courses are delivered and with flexible delivery there is the opportunity to bring the issues together in ways which suit a wider range of style of learning.

The similarity with recent government documents advocating moves to flexible delivery is marked, (see, for example, NBEET, 1994b). In the formal advice of the National Board of Employment, Education and Training to their Minister (NBEET, 1994c, 3), the Chair of the Higher Education Council, Professor Ian Chubb wrote:

The Higher Education Council believes that the opportunity and potential now exist for universities to make more effective use of distance education materials, methodologies technologies to enhance student oncampus learning environments... it is important for universities to recognise that quality outcomes in the wider use of distance education on-campus are attainable. This can be done by using minimal distance education processes and procedures, as well as by providing state-of-the-art materials, methodologies and technologies.

It is important to remember, however, as Ted Nunan (1994,1) has pointed out, that for Government policy makers 'At the broadest level, flexible delivery is one response to resource allocation issues'. At policy level, it is probably dominant. As a member of the Steering Committee for the project from which the Higher Education Council's advice derived, I was extremely conscious that a constraining factor for the project officers was the need to

have advice ready for the Minister in time for the preparation of budget papers. I think there is a sharp distinction in Australian universities between those who rather naively believe that flexible delivery, particularly that mediated by sophisticated technology, will reduce costs and those who see the potential for improving the quality of teaching and learning through more flexible delivery approaches.

Flexible delivery has its intellectual base in open learning theory. This can be shown by comparing the characteristics of flexible delivery identified above with one of the standard definitions of open learning, provided by Dick Johnson (NBEET, 1990):

Open learning is an approach rather than a system or technique; it is based on the needs of individual learners, not the interests of the teacher or the institution; it gives students as much control as possible over what and when and where and how they learn it; it commonly uses the delivery methods of distance education and the facilities of educational technology; it changes the role of teacher from a source of knowledge to a manager of learning and a facilitator.

Despite constraints which will be discussed below, the most familiar Australian instance of open education at university level, the programme offered through Open Learning Australia, has made significant ground in moving towards the ideal embodied in that definition. Entry requirements have been overcome, much more flexible course structures have been developed, the capacity for choice over units of content has been increased, credit transfer arrangements have dramatically improved, study periods are more frequent and so on.

The situation appears somewhat different in vocational education and training, although on first sight one could be excused for thinking that the same agenda prevailed. Indeed, in the recent report of the National Flexible Delivery Project in Australia (ANTA, 1995, preface), differences

between 'open learning' and 'flexible delivery' are dismissed as semantic, and the preceding definition of open learning is adopted in its entirety as a description of flexible delivery. That differences between the two concepts as so readily dismissed helps account for the difficulties the rest of the paper presents. This report is likely to become a key document in the vocational education and training sector in Australia and as such is worthy of greater consideration than is possible here. What is immediately apparent is the movement away from the value position of the definition, which focuses on the learner, to one which is centred on the client. Immediately following the definition is a statement:

This defines flexible delivery in the context of the training market – it is customised training designed to meet the needs of clients. (ANTA, 1995, i)

The shift from learner to client is significant, for on page 4, the Report continues:

... the key clients of the system are enterprises because they are competing for high value added jobs to provide employment and that they utilise and invest in skills to do so.

What this does is effectively render the value commitments of the definition meaningless. For all practical purposes, individual learners have been kissed goodbye and the realities of vocational education and training dramatically revealed: the principal clients are not learners but enterprises. This is completely unabashed. The recommendations of the Report call for the establishment of a national policy framework which would promote an approach, *inter alia*:

- where flexible delivery is viewed as training which is provided to meet the specific demands/needs of an enterprise client. This customisation of training is the point at which provision can be determined as flexible.
- where clients rather than providers determine the training product (ANTA, 1995, 25).

I want to be perfectly clear. There is no criticism here of the critical role of enterprises in shaping vocational education and training. What I am concerned about is the invoking of a particular value position – the priority given to learner control - which has no relation to the specifics of what follows and is, as indicated, immediately repudiated by the rest of the text. Learners are not ignored completely, of course. The Report covers a number of important considerations in implementing a system of flexible delivery, for example identifying necessary elements of student support systems, (ANTA, 1995,12). What is of concern is that we understand that when discussing flexible delivery in different sectors of education we are talking about very different things.

STAKEHOLDERS The differences turn on who comprise the stakeholders in education and training. Nunan (1994,5) identifies them for university education: students, academics, those staff engaged in supporting teaching and learning environments, and those engaged in designing and managing courses. To these, we would have to add the university as an organisation, the professional bodies that provide accreditation for qualifications or are represented on course advisory committees, and funding authorities including government. In secondary education, we would want to include students, parents, teachers, the school as an organisation, government officials, formal parent organisations, sometimes powerful pressure groups, and so on. What is to be taught is negotiated to establish some common ground among the stakeholders on what knowledge and related skills students should be expected to acquire. This is then mediated through the ability, personality and training of the teacher or lecturer involved.

What is critical here is the degree of control various stakeholders are able to exert on the content and delivery of learning programmes which stakeholders might be described as internal to the educational process and which external. Elsewhere (King, 1994, 6), I said:

...the attempts by governments to take greater control of the national curriculum

agenda in schools, the move to prescribed competencies in vocational education, and the quality assurance interventions in higher education make it quite clear that those groups who see themselves as representing national and vocational interests are determined to assert their participatory, even determining, role in setting the purposes of education. If anything, the contribution ... of the Australian professional teacher or lecturer has diminished over the last decade.

My experience with schools, universities, and more recently in the vocational education and training field strongly suggests that only in the latter case are external stakeholders recognised as legitimately in control of educational development and delivery. In schools and universities, students and their teachers still exercise a critical influence on what occurs in the teaching/learning interaction. The role of teachers, however, will have to change because of the third contributing element to flexible delivery, developments in communications technology.

CHANGING PARADIGMS I have argued elsewhere that over the past century and still in most schools and colleges, the dominant paradigm in educational provisions has been information transmission, that is, students have gathered to receive information and acquire skills determined and imparted by an authority figure – the teacher. Developments in communications technology make the weaknesses of the information transmission model both apparent and afford an alternative. I discussed this in a paper for the Learning Environment Technology Australia Conference in Adelaide last year (King, 1994,3-5):

What is wrong with the information transmission model centres on two issues. First, it is at odds with what most educators claim to be the point of their activities. Second, it is increasingly impractical. These are both elaborated below.

... In both general and vocational education, there is now widespread acceptance of the importance of students being able to engage with, question and reflect upon the content and context of their studies. ... In short, the aims of both general and vocational education stress the active cognitive involvement of the learner and emphasise those higher order skills which are the components of intellectual judgement. This necessarily involves a view of the educational process in which learners might for good reasons come to different perspectives or understandings on the same matters. Such a view is logically at odds with a transmission model of teaching and learning whereby students are directed to particular knowledge and specific interpretations of it.

Secondly, the transmission model is simply not up to the task of teaching beyond elementary levels. The sheer volume of information now available on any non-trivial matter makes its channelling through a single individual's presentational capabilities necessarily result in content which is partial, selective and more or less idiosyncratic.

The two points are interrelated. The point of educational practice identified above increasingly requires of learners that they become information literate. That is, our students should develop growing competence in understanding how society orders, stores and retrieves information. They must be able to identify what information they need, understand how it can be located and accessed. order that in understanding and judgments might be shaped, tested and confirmed by its application. It is simply anachronistic to order teaching as though such competence can be achieved by students relating to the knowledge and understanding possessed by a single authority figure. The test of good teaching must become less a matter of transmission of information which, by some relevant test, is accurate and relevant and more one of supporting students in accessing and using information from a range of sources. Inevitably, because of the sheer volume of information now available on any subject and the time required to access and process it, being a successful teacher or student will increasingly depend upon familiarity with, and skills in using, information technology.

Information technology is not simply a faster route to conventional wisdom. Because of its almost unlimited potential to bring information sources together, it enables the generation of new understandings formerly the prerogative of the privileged few. The implications for teaching are significant. Students now can become more expert on a given subject than their teachers and it is the new obligation of teachers to encourage and support that end.

This takes us both backwards and forwards in the discussion. Backwards, in that it is clearly at odds with the point made in discussing stakeholders concerning control in vocational education and training being outside the providing educational institution. Forwards, in that the movement of control to learners afforded and necessitated by developments in technology has implications for the subject of the final section of this paper, lifelong learning.

In relation to vocation education and training, it needs to be acknowledged that many of the skills acquired by young workers involved relatively straightforward instruction and supervised practice. This notwithstanding, two comments need to be made. First, developments in the workplace will increasingly be computer driven and require operators who have sufficient understanding of processes that they can be both receptive to change and readily reskilled. Second, many enterprises would actually welcome training that was more learner centred and technologically oriented.

A Coopers and Lybrand study, Small Business Training: Needs Preferences and Markets cited in the Final Report of the National Flexible Delivery Project (ANTA,1995,6) indicates that small business has a preference for training which is:

- demand driven
- learner-centred and learner-directed
- short, sharp and specific rather than general and theoretical
- built around active learning strategies including the use of team and group learning and problem-solving related to practical issues in the workplace
- flexible in the programming of sessions in terms of time and place
- sanctioned and supported by a peer group such as an industry association, and
- built on personalised and segmented markets.

The study highlighted the need for adequate learner support for flexible delivery in the workplace, including through skills centres or telecentres.

Now, if it genuinely is the case that small businesses would welcome flexible delivery of training that was learner-centred, why are they not getting it? Some obvious responses come to mind. First, as the ANTA report (1995,5) indicates, the bureaucratic barriers to small businesses becoming involved in training are considerable. Second, the costs of introducing the technologies which would support flexible learning can be significant. Third, small businesses may well not have their voice heard in the formal organisations which purport to represent stakeholders. Fourth, flexible delivery involves on-the-job training which is a source of tension between industries and providers, particularly over assessment. Finally, as indicated earlier, flexible delivery threatens the teachers in training institutions. It is an irony that as enterprises seek changes towards more flexible delivery, it is their historical association with training colleges which no frustrates them. Over time, teachers have developed a comfort zone which renders change both undesirable and, for many, apparently unnecessary. The industrialisation of the teaching force, the implacability of the training culture, and the continuing demand for course places which youth unemployment creates, have contributed to a situation in which many teachers see no reason to alter their practice.

This is reinforced in my view by the separation of course development and delivery which occurs in some VET organisations. Where course development is primarily industry led, and teaching progressively controlled by industry established training standards, then there appears little incentive for teachers to be proactive in relation to alternative approaches to course delivery. This is exacerbated by contestation between teachers and enterprises over the validity of off-the-job assessments. If I have fairly characterised the VET climate, there seems little reason for teachers to adopt more than minimalist approaches to flexible delivery.

Again, the situation is compounded in those VET organisations where there has been a traditional separation of classroom teaching from distance delivery. Flexible delivery requires that provider institutions have a significant infrastructure to support learners. Where this, together with all relevant expertise in student support is remote from the possibly not understood or known by technical teachers, then flexible approaches are likely to founder on the reluctance of teachers to become involved with something which seems to them hopelessly unrealistic. In these circumstances, the interests of individual learners seem doomed to come a poor last to the interests of other stakeholders.

**LIFELONG LEARNING** Finally, I want to turn the lifelong learning. In the discussion above concerning the inadequacy of information transmission approaches to teaching, I said:

... our students should develop growing competence in understanding how society orders, stores and retrieves information. They must be able to identify what information they need, understand how it can be located and accessed, in order that their

understanding and judgments might be shaped, tested and confirmed by its applications.

I argued that technologically driven approaches to flexible delivery were essential to bring about this desired end. This seems to me to be absolutely the bridge to lifelong learning.

There are various related concepts: for example, lifelong learning, recurrent education, continuing education, and education for the third age. This is not my field, and I seek here only to make some comments upon that learning which individuals voluntarily engage in at any time to increase their personal fulfilment or enhance their social and economic situation.

There are clearly substantial existing opportunities for informal learning in developed societies, through broadcast media, public libraries, participation in the arts, travel, and participation in various clubs and private agencies. I do not intend to address this dimension of lifelong learning here. There are other, more formal kinds, for example, second-chance education for those who have not acquired necessary social or vocation skills in earlier years, the inservice education undertaken by professionals to maintain the currency of their practice, and learning in the workplace which has a similar inservice dimension. I want to focus on the last of these.

In an excellent report, Developing Lifelong Learners through Undergraduate Education, (NBEET,1994a) Phil Candy and his colleagues have drawn on their own earlier research to show there is a large number of major differences between initial formal education, specifically at university, and learning which occurs in the workplace.

Whereas university learning is generally curriculum-driven, competitive, theoretical, abstract, longterm, and generalised, workplace learning tends to be more problem-based, collaborative, applied, immediate and specialised. They acknowledge, too, that workplaces are themselves subject to change,

through internationalisation, total quality management practices, workplace restructuring, and so on, such that the very sort of learning that workers need to undertake is changing.

The implications of this seem to be: (1) the way we teach people before they enter the workplace will not match the way they need to learn on the job, and (2) what we teach them about the job will have limited currency and utility. Further, (3) if they have not acquired skills in seeking new information for themselves, they will become progressively out of step with the demands of their workplace. To compound that, (4) even if they have such skills, these may become outdated over time, for example, through changes in the manner information is stored and retrieved. Finally, (5) if their workplace brings them into contact with suppliers, customers or other staff who have more sophisticated understandings and capacities to learn about the workplace, they will become increasingly frustrated and less functional. Of course, if the individual concerned changes jobs, the whole cycle accelerates.

One of the submissions to the study undertaken by Candy *et al.* contended:

No biochemist this century could anticipate a state of knowledge stability adequate for a professional career that did not have constant input from new sources. The extensive digitisation of reference material and storage of data in national and international respositories means that the established practice of journal browsing may be expected to decline. [Even] teaching the mechanics of keeping current is therefore not practical, so we trust that the attitude of responsibility to keep current is what is transferred by our teaching. (NBEET, 1944a,34)

This, I think, extends the obligation I identified above to use technology such that our students were able to understand how society stores, retrieves and uses knowledge. It suggests that what is critical is inculcating an attitude of responsibility to remain current in whatever field one finds oneself, if you like, developing

responsibility for one's own learning. Quite simply, this must become the new role of teachers in all sectors beyond elementary levels.

Now, this seems an impossible task if the other stakeholders of education and training, through pursuit of their own legitimate interests, remove the learner from the centre of the learning process such that the skills and attitudes of mind which foster personal responsibility and commitment to continuing learning are not fostered. Further, if teachers do not model such responsibility in the way they operate in their workplace, then the role of education institutions in supporting lifelong learning seems hopelessly circumscribed. I think it was Lawrence Stenhouse who observed that the two driving forces in teacher behaviour seemed to be the need for rectitude and for control, that is, the need to be right and be in charge.

Neither is appropriate for the present, let alone the future. If teachers, or any other stakeholder, force learners from their rightful place at the centre of learning and fail to support them in assuming responsibility for and exercising real control over their own learning, then the profession of education will become a horse that has bolted, and all we will be left with is the sound of a stable door banging in the wind.

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