Work, education and validated knowledge: Australian policy and experience

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This paper will evaluate the changing nature of further and higher education through a broad analysis of global trends towards a new vocationalisation of curriculum, supported by a case study of my own institution. The re-newed emphasis on 'work-readiness' and public job training is shaping new constructs around general and technical knowledge, and particularly around what is 'validated knowledge' in the light of the future 'knowledge society' and the types of work that future envisages (and who will do this work). The University of Newcastle in Australia, with its partner at the Central Coast Campuses – the TAFE NSW Hunter Institute – is developing new strategic directions focussing on a closer alignment between undergraduate teaching and workplace experience. This paper will follow a Deweyan perspective on the synergies between education, work and knowledge, but applied to the contemporary world of global workforces and the resultant issues around skills and mobility.

Introduction

Researching work and learning is a complicated undertaking. It involves crossing territories between theories of curriculum and pedagogy, crossing boundaries between types of educational institutions and levels of educational provision, and it means undertaking an assessment of what we mean when we talk about 'work', 'knowledge' and 'learning', a question that has been posed for educational philosophy and practice for at least 200 years. One group that has informed this discussion for at least half of that time is the Pragmatists, best identified in the work of John Dewey and his experimental school in Chicago in the early Twentieth Century. One of the central dilemmas Dewey addressed was the relationship between education and work, and he answered it in ways still not well understood, yet powerfully able to inform contemporary events and policy. Dewey was also responsible for seminal work on how knowledge grows (epistemology) and this, too, remains highly topical.

There are many commonalities between the work of the early Pragmatists, and more recent post-structural work on identities and roles of educators and learners. The issue being addressed by both early and late twentieth century thinkers is one brought about by shifting, and now global, workplace relations, which are in turn having an impact on the relations of schooling. Not only are student and teacher identities being

stretched and re-shaped, but also the (at least 900 year old) 'idea' of the university is under challenge, as economies develop under pressures and strains from the breakdown of traditional dichotomies in the workplace and home. This leaves open the question, asked by this conference, what is the 'centre' and where are the 'margins' for education and work, and how can we better understand this to shape new practices that are inclusive, equitable and productive for individuals, institutions and the state.

This presentation will thus explore the changing nature of further and higher education in relation to changes to the interconnections between work and learning, first through an overview of the issues, through a conceptual framework for interrogating this phenomenon [based on a Deweyan theory of knowledge] then through reflections on the experience of an Australian cross-sectoral campus attempting to manage these pressures for change to its own advantage.

Work-based Education: history and philosophy
Work-based education in higher education is not necessarily a new event, though universities [higher education: HE] have differentiated themselves from further [FE] and vocational education and training [VET] by presenting the learning undertaken by university students as more theoretical and conceptual than the practical 'hands' on' learning that is the stereotype of VET. These assumed differences have been the undoing of many attempts to reduce the distance between the operations and philosophies defining the various levels, providers and sectors in education and training.

Yet most undergraduate programs in HE are vocational – they teach students how to be engineers, doctors, nurses, teachers, architects, scientists, artists, musicians, and etcetera. Most HE students draw directly from their degree for obtaining employment (in their "profession") in much the same way FE students draw on their qualifications for getting a job or a better job, or a better position within their place of employment (in their "vocation"). The core issue of how to achieve commonalities over assessment is a genuine (though artificially constructed and thus not immovable) stumbling block, but the perceived differential status of FE *teachers* and HE *lecturers*

arising from this pedagogical dualism is an equally robust but even less convincing barrier.

Bridging the divide between FE and HE is not the only way to address the issue of work place learning, but there are clear lessons to be learnt from each sector, and yet this conversation has not taken place in any meaningful way. As a consequence, FE and HE tend to work in isolation from each other in trying to respond constructively to new strategic pressures to reinvent themselves in ways that meet the needs of the new policy direction being driven by the state, driven itself by globalisation and new economies. Multi-sector, or cross-sector FE / HE partnerships can be seen to be one inventive way to provide a new identity for both organizations, as well as providing immediate benefits not only to the students they share and serve but also to the partner institutions themselves. A case study of one such example, the "Central Coast Campuses" in New South Wales, Australia, follows later in this paper.

Where the differences between FE and HE have been bridged is one other consideration. What is the significance of how each sector envisages and addresses "work-readiness", and does this provide greater, or less, validity (and credibility) to general or vocational knowledge(s)?

Work-readiness and education policy
The global contexts driving re-alignments between education sectors and providers include the perceptions and realities of skill shortages. In Australia, new entities created as a result to meet skills shortages and address 'credential creep' are, at the national level, Australian Technology Colleges, Associate degrees (awarded by FE), the Australian Diploma Supplement and Structured Workplace Learning; and, at the state level (for example, in NSW), (secondary) Trade Schools. There is not enough space in this paper to go into the details of each initiative, but all are expressions of a policy-driven, state-steered construct to encourage young people to pursue VET, backed by significant state financial, capital and human resources (until recently, in Australia, at the expense of higher education). This is part of a broader agenda to reshape predominantly negative perceptions about FE and the value of work-based learning, and to encourage greater employer participation in, and contributions to, VET.

It is now possible for students to stay at school whilst undertaking an apprenticeship, which broadens the depth of 'work-readiness' by synthesising what had been two separate (in time and space) activities. At a higher level, the Australian government is providing $45 million between 2005-2009 to promote collaboration between universities, business, other tertiary education providers, and the wider community through the Collaboration and Structural Reform Fund. Contemporary politicians would not argue with Dewey (1897, p. 80) that:

> (…) through education, society can formulate its own purposes, can organise its own means and resources, and thus shape itself with definiteness and economy in the direction it wishes to move.

Multi-sector campuses are precursors to these "moves" and continue to find favour as they can accommodate a much broader suite of activities and outcomes (for example, closer relationships between FE and HE are a key part of the recently endorsed NSW State Plan). Multi-sector partnerships have been redefining the sectors and unhinging structural divisions for more than a decade and thus have a wealth of experience to offer these policy directions; but multi-sector arrangements are based on state rather than national conditions, so the national government, whilst supportive, needed to break through with other arrangements – such as the Australian Technical Colleges - directly funded by the national government, and that are able to radically reform related issues such as curriculum content, local business community involvement and industrial relations.

Divisions in Work
One other challenge is the deepening divisions in work. As wealth is being created in nations of all types and sizes, the elite or 'centre' is growing and expanding membership but, paradoxically, the margins also appear to be expanding leaving too many people, generation after generation, unemployed or under-employed. The shift of power in industrial relations from organised labour to the employer has created a context in which work has been transformed from a lifelong career-based activity, into an atomised and random accessing of opportunities created by market forces, and thus (by definition) *ad hoc*, indeterminate, subject to rapid change, casual, part-time, and highly competitive, even in times of full employment (or, because it is these new things, we now live in a period of full employment?). There are social and cultural

costs to a nation from following this course, but the benefits in terms of 'gross national product' and global competitiveness currently hold sway.

Given the complex trajectories of peoples' work histories arising from these new employment environments, how is it possible to shape the interactions between learning and work so that they can function meaningfully, let alone to the benefit of both the institution and the individual? In many ways, the core issue in this question has been posed since Ancient Greece – 'How to have an educated population that serves state interests, as well as develops individual talents and potential?'. However difficult this question is, and the fact it has hung in the air for over 2,000 years suggests it is quite difficult to answer, this conundrum is the dominant factor shaping how education is being conceived in the twenty-first century. As former Chairman of the United States Federal Reserve, Alan Greenspan, argued:

> Historically, we have placed much greater emphasis on the need to provide equality of opportunity than on equality of outcomes. But equal opportunity requires equal access to knowledge. We cannot expect everyone to be equally skilled, but we need to pursue equal access to knowledge to ensure that our economic system works at maximum efficiency and is perceived to be just in its distribution for rewards. (Cited in "Education and Economic Growth", Julie Bishop, Address to the Committee for the Economic Development of Australia, Brisbane, 1st February 2007).

Institutions that ignore this question are endangering their very future. As Antti Kallimomaki, Minister for Education and Science, Finland, explained further:

> Economic globalisation makes for a deepening division of work and even steeper competition. This is causing changes in the structure of the labour market, in professions, and in knowledge needs. Globalisation increases the mobility of the work force, and companies move their operations to countries which offer the most favourable markets and production factors. As a result, R&D is also relocated closer to production". ("Going Global: The Challenges for Knowledge-Based Economies", Finland, September 2006. www.minedu.fi/OPM/Puheet/2006/9/Kalliomaki_Going_global_en.html?lang =en

That is, with the emergence of state-of-the-art FE and HE institutions in China and India, countries like Australia are not only at risk of becoming a second-rate education nation, but also of seeing our industries leaving Australia to where the new

ideas are being shaped, relegating Australia to a second-rate economic nation too, possibly within 20 years. Already, the earning power of American (USA) workers is being eroded, which could see the end of the USA as a super-power within our lifetime. As the Commission of the Skills of the American Workforce recently reported, in *Tough Choices Or Tough Times* (NCEE, 2007):

> If we do not prepare to succeed in a highly competitive, knowledge-based, technology-driven global economy, we can expect the long-term decline in the earning power of our workers to continue and accelerate (…). To avoid that outcome, our whole population needs to be much better educated and very differently educated. *We do not have a choice.*" (emphasis in the original).

Differently Educated?

As global economies tighten, and nations attempt to balance self-interest with the need to co-operate, this tension pushes governments to re-shape school curricula to the needs of employers. In Australia, the national government is looking to insert an "employability skills' item into the proposed Australian Certificate of Education (for upper / senior secondary education). The Australian Diploma Supplement (for further and higher education) is intended to document a student's performance outcomes as well as describe the nature, context, content and status of the qualification rewarding those outcomes. The clear intent is to improve international recognition of Australian qualifications, and thus employee mobility.

In many ways, political interest in broadening the investment in education is a welcome (and somewhat novel) development, as Australian state and national governments, as well as industry and business, have invested poorly in education and training for decades compared to European and Asian nations. In other ways, it signals an about turn in curriculum and pedagogy (broadly speaking from 'progressive' to 'instrumentalist') – and therefore to credentials and qualifications - that most institutions are not ready to meet, or perhaps even accept.

Changes to public funding for the various levels and sectors have been used by politicians and bureaucrats as leverage for many of the structural reforms occurring at this time. Many of these interventions were aimed at making education responsive as an industry to local and regional aspirations and economies. These levers were particularly influential in further and higher education. However, some aspects of

reform were driven *by educators* who saw the need to restructure schooling so that the artificial barriers between primary, secondary and tertiary education - constructed post-WW2 - could be partially demolished, allowing greater access to education to a broader community, and linking that educational experience to workplace and employer expectations and changing relations. As early as 1993, the OECD (p. 35) reported:

> The once clear boundary between secondary and higher education is gradually blurring and even losing its relevance. The term 'higher education' itself, which in the past was associated with a specific set of institutions, now covers a much wider variety of courses and programs.

These boundary changes are partly a response to the economic and social factors brought to bear to turn education in Australia into a national world-class endeavour.

So where to next?

If we accept the view of Boud and Symes (2000) that these changes are demand-driven, then work-based learning is one way universities can become more flexible, provide more relevant courses through partnerships with new sites of knowledge production, provide savings to the costs of education for the state and individual, as well as meeting student and employer wants and needs.

This is getting us closer to a solution. As Dewey would see it, we need to abandon the senseless 'self' versus 'society' battle, emphasising instead the interactions between private and public spheres and to have a 'self' able to take the roles (and viewpoints) of others in the community, including employers. In other words, we cannot be complete in ourselves and it is foolish to try to ignore or abuse functional relationships upon which we depend (Garrison, 1994); that is, society and the individual are 'necessarily helpful to one another'. Dewey (1950, 150) explained:

> Since the individual and the state or social institution are but two sides of the same reality, since they are already reconciled in principle and conception, the conflict in any particular case can but be apparent.

Whilst society is "one word, but infinitely many things", and "'individual' is not one thing" but a blanket term for an immense variety of dispositions etcetera (Dewey,

1950), the interaction between these conceptions is tangible and real. Work-based learning is one arena where individual and societal goals have the potential to be met simultaneously. This is also an arena where reform is being driven by the individual and the state/institution in a cautious and serendipitous embrace. It is thus worthy of some careful consideration.

Work-based learning

Work-based learning is being established in higher education in several countries including Australia and there are similar developments in technical / vocational and further education. These developments are shaping new qualifications within which learning occurs primarily, or at least in part, in the workplace, with work as a key element of the curriculum. Boud and Symes (2000, 19) argue "A degree gained in the workplace and for the workplace makes sense for the employee and the employer alike (…)". There is an increasing variety of forms that work-based learning takes in higher education, from the pioneering courses at Portsmouth and Middlesex universities in the UK (Boud and Symes, 2000), to work-based learning being integrated into undergraduate degrees as part of a shift to a range of new priorities, including internationalisation, as in the case study for my own institution.

The key difference in these new forms of integrating education and work is that this is something much more than an experience of workplaces through a practicum, placement or residence. The aim is to create a distinct element of the award that is determined by performance in the workplace as part of an assessment of the student being "work ready". These changes to qualifications reflect changes in patterns of work which are becoming more flexibly based on individual contracts rather than collectively bargained industry awards / agreements. As Boud and Symes point out, this development rings alarm bells for many educators as they see the new goal for individuals as directly serving the short-term economic goals of the state (even if this is watered down as in "instrumental progressivism"), or of individual employers or industries; but is less alarming if seen as part of a repertoire of initiatives to provide greater relevance to students' learning, and thus in part encourage greater educational participation and access (especially where 'recognised prior learning' in taken into account; see NCVER, 2006). According to Boud and Symes, these developments could, over time, mean the loosening of the boundaries between HE and FE as well as

the boundaries between undergraduate and postgraduate studies. I want to argue that this is where multi-sector arrangements already excel – despite some reservations about the model to be discussed later - facilitating expanded access and fast-tracking qualifications, at a generally cut-price cost.

The framework for work-based learning is generally constructed with the following pieces (see Boud and Symes, 2000, p. 22):

- An amalgam of existing units of study and ones specially developed for the workplace;
- Recognition of prior learning and/or employer-initiated accredited study;
- Inclusion of less formal modes of study;
- A description of competencies or graduate attributes that shapes the program;
- A learning contract between the different sites of learning.

There is much in work-based learning that challenges the basic assumptions of FE and HE. Lessons are not limited to specific times, assessment is not abstract, informal knowledge can be seen as valid and thus accredited, knowledge is seen as cross-disciplinary and experiential, and so on.

However, there is no reason much of this cannot be accommodated within the existing 'idea' of a university or TAFE college; especially in multi/cross-sectoral settings as in the case study that follows. Technology alone is driving many changes in the daily lives of our students that have shifted their expectations about what it means to study and work.

Meeting these changed expectations is one way FE and HE can stay relevant, and protect the public provision of education and training from private providers who necessarily shape their programs around fiscal economies of scale to maximise profit. Ironically, public providers of education may well prove to be more adept at meeting the challenge of work-based learning than the increasing numbers of private providers, as many private institutions are setting themselves up on the old paradigm, hoping to shape around their new institution a gloss of credibility based on being "academic", even if the academy is 'online' or in smart new buildings.

Case Study: The University of Newcastle (Australia) – Central Coast Campus

The Central Coast region of New South Wales Australia, is characterised by an increasing population and economic growth but low education participation rates. Central Coast school students leave school earlier; there is a lower than NSW average retention rate in the senior years; there is lower than NSW average participation in VET; there is lower than NSW average participation in higher education; and a lower percentage of people with a higher education qualification than the NSW average.

In response, state and local government inquiries have focused on education as a key lever in building the community and the region. However, the Central Coast region does not yet have a single defining or well-recognised location or identity. Rather, the region is an amalgamation of numerous "villages", with varying characteristics and local community cultures (rural, coastal, industrial and service), some of which are outward looking and growth-oriented, others striving to retain the traditional features and advantages of a small and homogenous and "unspoilt" locality. The same dilemma applies to local business as there is a lack of a defining industry for the region. Many state government departments and initiatives view the Central Coast as a fringe suburb of Sydney, and a very high proportion of residents leave the Central Coast daily for employment. This creates problems for building loyalty to local institutions.

The multi-sector campus at Ourimbah on the Central Coast of NSW was established in 1989 and is a partnership involving TAFE NSW Hunter Institute, the University of Newcastle and the Central Coast Community College. The campus is well designed and resourced, providing an attractive option for students to be involved in any or all three tiers of post-secondary education on the one site and to achieve their education objectives locally. It also provides a physical and aesthetically pleasing environment that supports closer relationships between the sectors and between students and staff. Other tenants on the site include business, environment, health, research, food and regional network organisations.

The initial driver for establishing the Ourimbah campus was the need to provide a tertiary education precinct on the Central Coast, but this was expanded into a concept

that would provide improved educational opportunities and maximum educational benefits for the people of the region' by incorporation of VET and community education partners on the same site and building strong synergies between courses and credentials and with the region's communities and industries.

As mentioned earlier, one of the primary aims of multi-sector institutions is to narrow the gap between success and failure by improving student retention and completion rates across all levels. While this is a matter of institutional self-interest, it potentially has advantages for social cohesion and educational equity in a country as large and diversely populated as Australia as well as improved educational participation rates and outcomes. Our joint FE/HE campus at Ourimbah demonstrates some of these benefits, as well as the potential for even better synergies and outcomes. Currently there are 205 TAFE courses and subjects offered by the TAFE NSW – Hunter Institute with credit transfer arrangements. For 2007, 1,093 students with a TAFE qualification were offered a place at the University of Newcastle – 24.6% of all offers – and 839 offers were accepted (about 300 at Ourimbah).

TAFE students get guaranteed entry into the UoN on the basis of Certificate IV or Diploma into 11 degree programs, with the highest cohorts of students entering a broad range of university programs: business / commerce / management, nursing, education, engineering, fine arts, information technology, social science, podiatry and oral health. Whilst there is a 'cost' to the Hunter Institute from loosing these TAFE articulants, the UoN gains a high value cohort in that there is very little attrition of students with a TAFE qualification from university courses. The Hunter Institute gains through attracting students on the basis of these pathway options, as well as students with a university qualification then taking TAFE courses to broaden their credential portfolio.

However, these representations are contested in some of the literature on post-compulsory education policy and practice, with the neo-liberal appropriation of tertiary education policy. Wenger's (1998) work on learning meaning and practice emphasising the social elements of learning, creating problems when work-based. Andersson and Harris (2006) likewise argue that RPL is more about certification than learning. Wheelehan (whilst Doughney, 2000) argued strongly for cross-sectoral

education and training but in 2006 draws heavily on Wenger to argue for the importance of communities of practice (p. 252), whilst also agreeing with my interpretation of Dewey's notion of vocation (2006, p. 249). Castells (1998) provides insights into the contradictory nature of adult and higher education under the influence of 'globalisation' against localisation of identity and legitimacy (p. 2). However, as Ball (1998) points out, also writing a decade ago, there are common elements in contemporary, international education policy, but nonetheless we need to also consider the processes of translation and recontextualisation involved in the relations or enactment of policy in specific national and local settings. Sommerlad, Duke and McDonald (1998) foreshadowed Doughney's enthusiasm for cross/multi-sectoral arrangements in education, providing interesting issues around the changing context of post-compulsory education, acknowledging obstacles but arguing that it is already a vigorous and that local region and international aspirations and identity are not polarities. Crump and Williams (2007) argue this point further, illustrating ways in which regional campuses and regional development can go hand in hand.

Challenges for the future of further and higher education collaboration, not only at Ourimbah, include the need to achieve curricular outcomes and assessment practices that cater for the development and learning needs of all students. This requires merging a competitive environment with a supportive and pastoral role so that institutions set high standards while protecting those who are vulnerable to failure through dislocation, poverty or other 'at risk' factors. What is needed is further empirical information and discipline knowledge about the rationale, practice and future of flexibility and choice in further and higher education in Australia. A number of the outcomes that research could provide includes:

- new knowledge about the formation and practices of multi-sector institutions
- unique conceptual development about the processes of change in curriculum and management occurring in post-compulsory education; and
- better theoretical understandings of the way policy works through expanding the knowledge base about institutional identities achieved in multi-sector partnerships.

Strategic priorities, work and learning
The University of Newcastle Strategic Plan (2006), "Building Distinction", has as the very first goal and target:

> We will incorporate an opportunity for work-based, experiential learning opportunities into all undergraduate programs so that our graduates are flexible and ready for the workplace.

The measure agreed on to gauge the success of this goal is the number of programs that include work-based learning features, as well as the related graduate employment rates and starting salaries. It is hoped to build work-based opportunities into 70% of undergraduate programs by 2011, with at least 10 programs recognised as having graduate employment rates and starting salaries in the top quartile of the sector.

One way this strategy is being shaped to succeed is by having an additional target for all programs being able to demonstrate a professional approach to work and practice through the integration of graduate attributes in the shape of 'work-readiness'. The rationale is based on an acknowledgement that the University's teaching strengths are focussed on the professions – on high quality education of professionals - where problem-based learning principles in Medicine and Architecture have been at the forefront and an exemplar within Australia. Similarly, the Law degree was the first in Australia to integrate the study of law with intensive practical skills training and experience, a feature shared with Engineering. The new target provides recognition of the success of these initiatives and helps build on them to create more advanced curriculum and work experience opportunities that it is hoped will result in a career ready profile for students. That these changes will focus on 'profession-specific knowledge' underscores the observations made earlier in the paper about the vocational nature of so-called professional degrees in higher education – and this is something that needs to be supported and praised, not seen as a backward step or lowering the status of those areas of study.

The University of Newcastle Council members, academic and administrative staff, and interested groups such as alumni, are being asked to take up this initiative as a high priority, facilitate access to and provide insights into business and professional networks, and provide 'critical friend' advice back to the University about enhancing work-place learning opportunities.

Specifics yet to be determined could include an internship component in professional programs, credit-based work experience programs, international work experience,

alumni mentoring, expanded accreditation for all professional programs, and staff professional development to adjust course design, teaching, assessment and reporting of what students achieve. Some examples at the Central Coast already in place include the Sports Science students undertaking work-based study and research with the local A Grade soccer/football team and the Central Coast Academy of Sport, and a student scholarship program for IT in which the student becomes embedded in the business operations and organisational culture of the sponsoring business while completing their academic studies. This strategy has been followed successfully in Engineering for a number of years, with financial support from industry, and has the possibility of being extended into other industries in the near future.

In addition, the TAFE NSW – Hunter Institute courses are strongly engaged with work-based learning, including self-paced study, flexible learning centres, 'prior recognition' for individual study programs, learning projects sponsored by industry or the community, and on-line managed and m-learning. However, the FE organisational culture, as in HE, inhibits the shape and depth of these initiatives extending learning and teaching outside the traditional classroom, with professional privilege of knowledge just as important to VET teachers as to university lecturers.

One on-site example at the Ourimbah campus where work-based learning is particularly effective is in teaching and training for early childhood education. The campus has a dedicated space for all levels of training, from a basic FE certificate through to undergraduate degree and research degrees. The Centre is called "Yerra", in which FE and HE students learn and work together with FE and HE staff. This includes experiencing real-life workplace situations that are provided through a free child-minding service whereby local community members are able to bring their child(ren) to Yerra and leave them for a few hours at times when early childhood education students are able to work with the children, under supervision, and watch each other through a one-way mirror tutorial room. There are many benefits to this approach to the community, staff and students.

It is a good example of a Deweyan perspective on "work-readiness" in that students gain a well-adjusted views on the realities of workplaces and the value of their work,

whilst not having been socialised into a particular workplace, where the result can sometimes be quite negative and reactive:-

> (…) such training *may* develop a machine-like skill in routine lines(it is far from being sure to do so, since it may develop distaste, aversion and carelessness), but it will be at the expense of those qualities of alert observation and coherent and ingenious planning which make an occupation intellectually rewarding. (*Vocational Aspects of Education*, Ch. 23, p. 310, Dewey, 19916 / 1944; emphasis in the original)

In "My Pedagogic Creed" (1897), Dewey made his famous declaration concerning education. He began by stating that "all education proceeds by the participation of the individual in the social consciousness of the race". He believed that education, therefore, is "a process of living and not a preparation for future living" to be conceived of as "a continuing reconstruction of experience". John Dewey passionately argued that radical shifts in forms of work and community life necessarily were accompanied by modifications of mind and character, in his lifetime from intimate rural tradition-based communities in North America, to impersonal complex industrial metropolises where new rules were being made. Wirth (1966, p. x) argues that Dewey faced this head-on rejecting wistful nostalgia:

> One of his responses was the conviction that children entering this new world needed to be prepared by a reformed kind of education and experience that would equip them for an effective, and fulfilling, go at life.

This meant making young people "work-ready", though not as factory fodder or mere functionaries of the state. Rather, Dewey saw the role of education as "to conserve, transmit, and advance civilisation in such a way as to make it a functioning part of individual, responsible selves" (cited in Wirth, p. 28). These responsible selves would learn through education and experience to value work highly, but not be trained for specific work places or skills. Dewey saw the kind of person emerging from education with this attitude as someone prepared to learn throughout his or her life (100 years before 'lifelong learning' became fashionable) and capable of acting in the world with a sense of obligation to human society, past, present and future. In this positive formulation, Dewey's theory of experience and enquiry was designed to ensure that knowledge and action were not isolated from one another through false intellectual or social dualism, but rather emphasise their practical character (Olafson,

1977). Thus Dewey (1916 / 1944, p. 310) believed that "the only adequate training for occupations is training through occupations" though he was more relaxed about this for senior secondary and tertiary education. Put quite strongly (p. 307),

> The opposite of a career is neither leisure nor culture, but aimlessness, capriciousness, the absence of cumulative achievement in experience, on the personal side, and idle display, parasitic dependence on others, on the social side.

Dewey believed that "An occupation is the only thing which balances the distinctive capacity of an individual with his social service" (1916 / 1944, p. 308). Productive pedagogies that shaped educational experiences to assist each individual realise their "right occupation" are to be encouraged because they assist each of us find a congenial calling, was well as not wasting human talent. He concluded:

> The problem is not that of making the schools an adjunct to manufacture and commerce, but of utilising the factors of industry to make school life more active, more full of immediate meaning, more connected to out-of-school experience.

Reflections

Academic identities are being challenged across all institutions and this is matched by the changing identities of students. Such moves can provide a catalyst for more fundamental changes to FE and HE that could break down the entrenched and crusty old practices of both sectors in a way that enlightens staff as well as students and employers. If there is no longer "*any* clear idea of a University" (Rochford, 2006, emphasis in the original), then work-based learning is one way knowledge-transfer can be made relevant and meaningful to occupations and employment.

The co-operation of all sectors and providers is crucial to the potential success of these innovations and there is an increasing impetus to seek closer relationships with communities and clients beyond traditional sites. While whole-of-organisation responses are rare as yet, policy and practice in education increasingly reflect new roles in responding to private and public demands for less restrictive practices for growing a

dynamic workforce through strengthening the performance of education and training in a way that maintains access and equity in a competitive environment.

Whatever the nature of these new relations of schooling and work, educational institutions no longer operate in isolation from each other, their local and international competitors, local businesses and other government agencies. In this way, policy knowledge and action are intimately associated with the active transformation of an environment in a way that is directed towards the resolution of problems however satisfactory or not to the participants (Crump, 1992, 1995).

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