

# Front-loading, Workplace Learning and Skill Development

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## Introduction

This paper has been conceived as a response to Winch and Clarke (2003), who argue that the notion of occupations is vital for understanding vocational education and training (hereafter VET) and that front-loaded education is crucial for preparing people for such occupations. Winch and Clarke further argue that common interpretations of lifelong learning overlook the importance of occupations and front-loaded education. While accepting that there is an important role for front-loaded education, this paper takes issue with a number of the Winch and Clarke arguments. In particular it maintains that their position can be read as placing too much reliance on front-loaded education while not giving sufficient attention to the important role of the learning that can occur during performance of work. It is argued that, if anything, the importance of the latter is growing.

The term 'front-loaded' (or 'front-end') refers to models of vocational preparation that require a period of formal education and/or training that needs to be completed by entrants to an occupation before they can be regarded as qualified workers. This period of formal education and/or training usually takes place in classrooms remote from the workplace (Beckett & Hager, 2002, p. 99). But, most importantly, this model is called 'front-loaded' (or 'front-end') 'because it implies that all of the learning that is needed for a lifetime of practice has been completed' (ibid.). So the main feature of the front-loaded model is the tendency of its proponents to assume that it encompasses the important learning that will suffice for a lifetime of practice in the occupation. As Beckett and Hager (2002) argue, the front-loaded model has always been somewhat deficient because it masks the importance of learning from practice. Although Winch and Clarke accept that 'vocational expertise continues to grow over a working lifetime' (2003, p. 239), they also convey the distinct impression that learning that might occur on the job is almost inevitably narrow and job-specific. In short, they appear to believe that on-the-job situations are only conducive to mere training, with anything richer requiring formal courses, especially front-loaded ones. Thus the Winch and Clarke version of the front-loaded model might be expressed as one in which all of the quality learning that is needed for a lifetime of practice occurs in formal learning situations and not in on-the-job situations.

This paper presents two main categories of argument against an over-reliance on front-loading for vocational preparation. Firstly, it questions the ongoing viability

of the concept of an 'occupation' in the changing world of twenty-first-century work. The main source of the arguments in this section is recent Australian work that was specifically focused on identifying the changing needs of VET (Buchanan *et al.*, 2001; Cairney, 2000; Chappell *et al.*, 2002; Meagher *et al.*, 2001). Secondly, this paper highlights the growing realisation of the limitations of the kinds of learning that dominate front-loaded courses. A diverse range of research and recent educational thought highlights these limitations. Finally, the paper concludes with a brief discussion of the crucial importance of integrating front-loaded vocational preparation and the learning that occurs during performance of work.

### **Doubts about the Contemporary Viability of the Concept of an Occupation**

A central argument of the Winch and Clarke paper is that, if the UK is to achieve policy aspirations towards a 'high-skill equilibrium', then high-quality front-loaded vocational education of the kind they propose is an essential prerequisite (Winch & Clarke, 2003, p. 239). Now a high-skill equilibrium is a policy option that is, arguably, fairly closely tied to the traditional concept of an occupation. However, the notion of a high-skill equilibrium is not the only way of thinking about a 'knowledge based economy'. As Cairney (2000, p. 1) points out, there are three somewhat different understandings of 'the knowledge based economy' in common currency. Each will have somewhat different implications for policy generally, and for contemporary discussions of how best to frame vocational preparation. Also, they are not all so closely tied to the concept of an occupation as is the high-skill equilibrium option. The three different understandings of 'the knowledge based economy' are:

1. One that links it to the 'high skills/high performance/high value added scenario as the only way for firms to compete in a globalised economy'. This is an understanding prominent in OECD publications and in writers such as Finegold (1991). It is also the understanding that Winch and Clarke are responding to in their paper.
2. One that limits it to 'knowledge intensive industries where knowledge itself is the core competence'. This is a common understanding in the scientific and technical community, particularly in areas associated with IT and biotechnology.
3. One that views all industry sectors, private and public, as 'becoming more knowledge intensive in the very broad sense of that term'. Cairney (2000, p. 1) elucidates this more comprehensive view as follows:

Knowledge is seen as a potential generator of productivity improvements in areas as diverse as quality, customer service, variety, speed and technical improvement, as well as innovations in products, processes and organisational structure and behaviour. As companies alter the way their organisations are structured (flatter, non-hierarchical, team based, multi-skilled) in order to compete more effectively, so too workers have needed to obtain a more complex range of cognitive and intellectual resources.

The first understanding has been criticised as being unattainable except for some sectors within developed national economies (e.g. Buchanan *et al.*, 2001, p. 22). While

nation states can certainly aspire to maximise the high value-added/high skills sectors of their economies, such as IT and biotechnology, it is inevitable that they will still need to operate with other quite different skills sectors, such as high social value/intermediate skills (e.g. family support) and low value-added/routine skills (e.g. cleaning). As Cairney points out:

Not only are there significant industry and firm level differences in the perceived strategic value of moving down a high skills/high value path, but international comparative studies also highlight systemic features which may constrain a nation's intent to reposition itself in the global economy. (Cairney, 2000, p. 17)

Thus, rather than focusing exclusively on a high-skills economy, Buchanan *et al.* argue that policy needs to address a 'diverse range' of 'skill ecosystems' (2001, p. 22). The second understanding seems to be somewhat restricted in that it encapsulates an unduly narrow and technicist model of knowledge. It will not be further considered here.

Cairney sees the third of these understandings as the most useful for thinking about the future of VET, as do Chappell *et al.* (2002). Certainly it is the one that covers all sectors of the economy. For Cairney, a knowledge-based economy is 'one that is increasingly dependent for its growth on the input of knowledge as a value-added input to the economic system. This is reflected in a change in the basis of "competitiveness" for economies, organisations and individuals' (2000, p. 1). He views this as being realised in four interrelated ways. These are worth examining as between them they suggest quite different implications for the design of VET courses than those resulting from the Winch and Clarke focus on a high-skills equilibrium. Cairney's (2000, pp. 1, 4) four features of a knowledge-based economy are:

1. Structural changes in the economy—new industries, occupations and organisational arrangements.
2. The types of skills required change with an increase in the importance of generic skills, including 'the ability to work more autonomously, monitor their own output and behaviour, work as part of flexible teams, adapt to change, solve problems and think creatively' (p. 1).
3. The economy requires the creation and application of new forms of knowledge. This happens 'in networks or clusters of companies/enterprises' and 'within "communities of practice" where workers are required to work together in new and more complex ways' (p. 1).
4. 'Innovation becomes more important as a means to increase economic competitiveness, and knowledge management becomes increasingly the key to sustainable competitive advantage, requiring individuals, firms, regions, and indeed complete economies to acquire, create and use knowledge as the key productive resource' (p. 1).

It is clear that these kinds of changes together entail much more than a strengthening of front-loading in vocational preparation. The first feature means not only that new industries and occupations arrive, but that existing industries and occupations are also altered as the types of skills and capacities that are required in workplaces

evolve and new ones arise. It is sometimes said that workers need to become multi-skilled. But, as Cairney points out, 'multi-skilling' is ambiguous between task intensive and task extensive senses. The former refers to technical change requiring new abilities within a task or occupation, such as the need to have computer skills. (For a dramatic example of this in the field of surveying, see Hager, 2004). The latter 'embraces both skilled workers who get better at doing other skilled tasks (i.e. skilled/skilled), and skilled workers who get better at doing other unskilled tasks (skilled/unskilled). Skill broadening and multi-skilling in practice is often of [this] kind' (2000, pp. 6–7). So the situation here is a complex one.

Also, these developments that constitute the first feature of a knowledge economy challenge the ongoing viability of the concept of an occupation. Discussing 1998 work by Green and Felstead, who 'constructed an index of the change in average skills required for a job' (Cairney, 2000, p. 7), Cairney observes that the

overall message from their survey and case study data seemed to be that for many occupations, vocational skills are fading in importance relative to multi-skills. When this fading becomes especially large, the occupation ceases to be a distinct category. If that happens in very specific ways and two occupations meld into one, it is probably not a profound problem, but when many different occupations all blur into each other, the system becomes almost meaningless. The latter is not happening at present but may occur in the future. (Cairney, 2000, p. 7)

Certainly, this places some pressure on the traditional concept of an occupation. So there is a continually changing skill map, one that increasingly does not map easily onto traditional occupations. In these circumstances front-loaded courses, with their relative isolation from the workplace, have extreme difficulty in maintaining their currency.

Cairney's second feature of a knowledge-based economy involves a broadening of the concept of 'skill', particularly the rise of 'soft' skills. *Prima facie* this suggests an important role for front-loaded courses in the development of such soft (or 'generic' or 'core') skills. However, there has been a naïve tendency to view such 'skills' as discrete or atomic entities that, once acquired, can be transferred to any situation. But matters are more complex than this, firstly because these so-called 'skills' are as much about attitudes, values and motivations as they are about genuine abilities. Secondly, these so-called 'skills' are highly sensitive to contextual variations. The result is that their transfer is severely limited as contexts change. Thus while front-loaded courses may have some role to play in this area, it is equally clear that actual workplace practice must have a crucial role in fostering and developing them. This matter will be pursued further in the next section of the paper.

So Cairney's first two features of a knowledge-based economy entail major significance for learning beyond front-loaded courses. The same applies to his third and fourth features. Clearly, both learning to work cooperatively in new and more complex ways, and developing and deploying knowledge as the key productive resource will be significantly contextual. Certainly, front-loaded courses can assist in preparing people for these challenges. But it is equally clear that much of the

learning that these two features require will have to take place in close connection to actual workplace conditions. Overall, on this conception of a knowledge-based economy, the role of front-loaded courses is but as part of a larger whole.

In questioning the ongoing viability of the concept of an 'occupation' in the changing world of twenty-first-century work, it is important to note that changes in work and occupational structures are not uniform across economies, or even across the traditional sectors of economies. Labour markets in contemporary Western countries are characterised by complexity (Wolf, 2003). There are divergent and sometimes contradictory trends in which some occupations, such as plumbing, are relatively stable; but many others are marked by shifting boundaries and changes in required capabilities. There are emerging high-skilled sectors of economies in which demand for suitably qualified and experienced people remains strong; there are intermediate skills sectors where demand for labour remains patchy. There is also a burgeoning of low-skilled, mainly casual jobs (Wolf, 2002, pp. 48ff). However, even within these sectors trends are often diverse and unpredictable. Hence the recommendation by Buchanan *et al.* (2001, p. 22) that policy should recognise the existence of a 'diverse range' of 'skill ecosystems' within and across sectors of the economy. Given this diversity and unpredictability, Cairney cautions as follows:

Occupations and skills are undergoing change. Boundaries are blurring between occupations, and the concept of 'skill' is expanding to reflect employers' needs for a range of 'soft' skills. However, research findings reveal a varied picture. It would appear that there is not a single direction of change in skill levels, nor is the common depiction of skill polarisation an accurate one. Rather, the findings are again far more nuanced. Macro data on skills in the workforce are often at odds with findings from case studies and more micro level survey work. (Cairney, 2000, p. 17)

Given this situation of diversity, the Winch and Clarke (2003, pp. 239–240) neat hierarchical architectonic of task/job/occupation is of doubtful applicability in at least some cases. For Winch and Clarke, 'task' refers to a specific work activity; 'job' refers to the individual's employment duties for a particular firm; and 'occupation' refers to the category of labour that carries out a given job. According to Winch and Clarke (2003, p. 240),

an occupation is a formally recognised social category. An occupation has a regulative structure concerning training, qualification, promotion and the range of knowledge, both practical and theoretical, that is required to undertake the range of tasks that fall within it.

For them, the prime task of front-loaded occupational education is to develop knowledge and skills that are general across jobs within the occupation, thus facilitating transferability between jobs. They characterise skill formation in the occupational sense as learning 'that is non-task specific and independent of the context of the particular task in hand or even of the particular job for which one is employed' (2003, p. 240).

While it is relatively easy to identify examples that exemplify this threefold architectonic, there are many jobs that do not readily fit into existing occupational classifications except ones of the vaguest kind, such as 'clerical worker'. In many cases occupational boundaries are vague or nonexistent. Moreover, many broad occupational classifications lack the formal recognition and the regulation of training, qualifications, etc. that Winch and Clarke see as defining features of occupations. When the contemporary changes to occupations and skills, together with the resultant blurring of boundaries, already discussed in this paper, are taken into account, the general applicability of the Winch and Clarke architectonic starts to appear very doubtful.

Yet the Winch and Clarke proposals for occupational skill formation are very closely tied to this architectonic. They distinguish between job-specific skills and knowledge, which can be developed at particular work sites, and the broader skills and knowledge that are transferable across jobs and sites. It is the latter that are, of course, the responsibility of front-loaded occupational courses. These involve:

building on school-based education; the acquisition of a range of knowledge and abilities that are transferable within an occupation or industry, together with an inculcation into the aims, history and values associated with that skill area or industry. (Winch & Clarke, 2003, p. 241)

This seems to be very pedagogy-focused, as the continuity with school-based education emphasises. However, it is acknowledged by them that front-loaded occupational courses will involve some training, e.g. in generic occupation-relevant skills. When it comes to learning at work though, Winch and Clarke characterise this much more narrowly, viewing it as 'training' in 'job-specific or firm-specific skills and knowledge' (Winch & Clarke, 2003, p. 242).

This narrow characterisation of learning at work is not supported by my own research in a variety of occupational areas. While learning at work certainly includes items that may have no application beyond the specific site, it invariably includes other items that clearly have wider applicability. It is also invariably the latter that workers identify as rewarding learning outcomes from work. For instance, Australian construction workers describe a range of crucial learning at work that is certainly not just job- or firm-specific (Hager, 2001). For example, workers engaged in building a major hospital reported that they gained strong satisfaction from learning to install 'crash bars' in corridors. Now this learning is job-specific in that it supplies the needs of this particular hospital. But there is also a strong likelihood that in future construction projects these workers will again be called on to install crash bars, especially as more and more buildings are designed to cater for mobility-impaired people. There are many aspects of the construction industry that are in continual flux driven by legislation; for example, safety requirements are frequently tightened, and environmental requirements are regularly strengthened. These invariably mean that new ways of working need to be learned at a specific site, but such learning is never applicable to just that site or project. The continual flux of the industry means that there is no alternative to workers developing on particular sites transferable learning that could not have been anticipated by whatever front-loaded course they undertook upon entry to the industry.

Given the discussion in this section, we would do well to note Cairney's conclusions that:

Research, both theoretical and empirical, suggests there has been an over-simplification of issues surrounding training. VET faces a far more complex set of inter-dependent issues in the future. (Cairney, 2000, p. 17)

### **Limitations of Over-reliance on Learning from Front-loaded Courses**

Winch and Clarke are enthusiastic advocates of front-loaded vocational preparation because they view it as providing learning that cannot be obtained by other means. Advantages include general theory, wide perspective, formal curriculum and assessment procedures, professional teaching, etc. All of these are indeed advantages of front-loaded courses, or at least of formal courses of some kind. However, there is also a series of distinct limitations of front-loaded vocational courses, limitations that become severe when there is an over-reliance on front-loading for preparing workplace practitioners. It is precisely because both front-loaded courses and on-the-job learning have distinct advantages the other lacks that it is argued in the next section that vocational preparation needs an integration of the two. Meanwhile, in this section, the limitations of too much reliance on front-loading are outlined and discussed.

One of the perennial problems of front-loaded vocational preparation springs from the metaphors about learning that it almost invariably incorporates. This is the view that the course is about the learner acquiring stores of knowledge and information that will be applied later. The very term front-loading vividly captures this metaphor of knowledge. All of this accords with what I have elsewhere called 'the dominant view of learning' (Hager, 2003). This dominant view of learning has become the 'common sense' account. It views the mind as a 'container' and 'knowledge as a type of substance'.

Under the influence of the mind-as-container metaphor, knowledge is treated as consisting of objects contained in individual minds, something like the contents of mental filing cabinets. (Bereiter, 2002, p. 179)

Thus there is a focus on 'adding more substance' to the mind. This is the 'folk theory' of learning (e.g. Bereiter, 2002). It emphasises the products of learning. This common understanding of learning involves a further basic assumption that is relevant to the way we think of front-loading. This is the stability assumption, which characterises the products of learning as being relatively stable over time. This stability enables learning to be incorporated into curricula and textbooks, to be passed on from teachers to students, its attainment to be measured in examinations. It also means that learners can carry their learning around with them until an occasion arises for its application.

However, there is a powerful alternative view of learning that is relevant to vocational preparation (Hager, 2003). This enables us to think of learning primarily as a process rather than as a product. Different features of knowledge are then

emphasised. Learning becomes a process that changes both the learner and the environment (with the learner being part of the environment rather than a detached spectator) (Beckett & Hager, 2002, section 7.9). This view of learning underlines its contextuality, as well as the influence of cultural and social factors. It is holistic in that it points to the organic, whole-person nature of learning, including the importance of dispositions and abilities. It also draws attention to the way in which learning itself changes and evolves. The process view of learning also fits better with notions of lifelong learning, as we will see.

One of the problems of front-loaded courses is that students and teachers are often unduly influenced by the 'learning as product' view. A range of research has found that much learning in front-loaded courses is far from optimal (e.g. see Bowden & Marton, 1998). It is often found that, 'despite students' having successfully negotiated the assessment system, little understanding of fundamental concepts has been gained' (Bowden & Marton, 1998, p. 61). This research is mainly on higher education courses, but there is no reason to think that its findings do not apply equally to vocational preparation courses generally. The concepts central to this research include surface vs. deep learning, where the former concerns acquisition of ever more information and the latter focuses on the meaningfulness of learning. But meaningfulness of learning represents one of the ongoing challenges for front-loaded courses. When carried out in isolation from workplaces, as they almost always are, they lack the major mechanism by which students can enhance the meaningfulness of their learning, that is by directly seeing its relevance for the practice of the occupation. While viewing learning as a product sits well with the Winch and Clarke separation between broad front-loaded education and narrow on-the-job training, learning understood as a process highlights the need for better integration of off-the-job and on-the-job learning.

The discussion of soft skills ('generic skills' or 'core skills') in the previous section illustrated the need for learning in front-loaded courses to connect better with actual workplace practice. There has been a naïve tendency to view soft skills as discrete or atomic entities that, once acquired, can be transferred to any situation. Once again, 'learning as product' muddies the waters. However, consistent with development of soft skills being an ongoing process rather than a once-only acquisition event, research indicates that their transfer is severely limited as contexts change. It seems that rather than any common-sense conception of direct transfer, it is more realistic to view transfer as application of previous knowledge to new settings that result in learning of significant new knowledge. On the 'learning as a process' view, soft skills need to change and evolve with circumstances.

Interestingly, psychologists who specialise in learning transfer research have arrived at similar conclusions. Recent work has led to proposals to reconceptualise transfer and, by implication, learning. Researchers see the institution of formal education being underpinned by the basic assumption that transfer is a ubiquitous phenomenon. However, despite increasing power of experimental techniques, transfer 'seems to vanish when experimenters try to pin it down' (Schoenfeld, 1999, p. 7). As Bransford and Schwartz (1999) point out, transfer is indeed rare if it is restricted to 'replicative' transfer, which involves both the stability and replicability assumptions

that were noted above. However, they propose that we broaden the notion of 'transfer' by including an emphasis on 'preparation for future learning', the ability to learn in new environments. So the point of transfer is not replication, but a contribution to facilitating ongoing learning. So learning transfer research is moving from a 'learning as product' view to one of 'learning as process'.

As noted earlier, Winch and Clarke argue that common interpretations of lifelong learning overlook the importance of occupations and front-loaded education. For them, as the title of their paper suggests, it is a matter of front-loaded education *versus* lifelong learning. Their antipathy to lifelong learning apparently derives from two sources. Firstly, they fear that the concept of lifelong learning provides a basis for replacing front-loading with learning on the job. They think, no doubt rightly, that the kinds of learning that can occur in front-loaded courses will not happen from on-the-job experience. However, perhaps this is to think too much in terms of learning as a product. When learning is conceived as a process, the real issue becomes how best to integrate front-loading with learning on the job. There should be no question of one replacing the other. After all, time spent attending front-loaded courses and time spent working are both part of a person's life. Placing front-loaded learning and lifelong learning in direct opposition narrowly restricts the notion of lifelong learning to workplace learning, thereby risking trivialising what is potentially a much richer notion. One outcome of considering how best to integrate front-loading with learning on the job might be to favour more sandwich-type course arrangements, where periods of 'front-loaded' learning alternate with periods of workplace practice. Thus, front-loaded vocational preparation can take various forms other than the 'pure' single-dose version. What arrangements are optimal for a given occupation in a particular time and place would be an empirical rather than conceptual matter.

The second reason for the antipathy of Winch and Clarke to lifelong learning is that they trace the rationale for the concept to the alleged mobility of contemporary workers, a mobility that they argue is largely illusory. Their rejection of worker mobility stems from the threat it poses to their 'education for occupations' argument, which posits that most workers will spend their working career within the one occupation, albeit perhaps in a variety of jobs within that occupation. Thus Winch and Clarke state that:

The advocacy of lifelong learning represents a pragmatic response to the alleged fact that the average worker may have to change his or her job perhaps six times in a working lifetime. (Winch & Clarke, 2003, p. 242)

This is a surprising claim about the basis of lifelong learning and no evidence is given for it in their paper other than to quote Gallie *et al.* (1998) ('occupational mobility ... posited as one of the driving forces behind "lifelong learning"', Winch & Clarke, 2003, p. 243). The reason I find this claim surprising is that I believe that much of the interest in the concept of lifelong learning springs from other significant motivations. One important rationale is that the role of on-the-job learning has typically been overlooked, even though such learning over time seems to be crucial for becoming a highly skilled practitioner. But an equally important rationale for lifelong learning looks beyond the workplace to the role of learning for people enjoying

rewarding and satisfying lives in contemporary society. Compared to these, occupational mobility looks to be a rather thin grounding for policies on lifelong learning.

Winch and Clarke contrast their 'loyalty to occupations' thesis with the so-called 'postmodern version of lifelong learning' (Winch & Clarke, 2003, p. 242), which they reject. They state the three premises of the postmodern version of lifelong learning as: (1) work is changing ever more rapidly; (2) more work is being carried out by non-permanent employees; and (3) 'employees are having increasingly to change not only their jobs but also their skill area or industry'. The third premise is the key one that Winch and Clarke dispute. But I would have thought that there is just as much, if not more, evidence that, far from *having* to change jobs, people are *electing* to do so. People electing to change jobs relatively frequently also fits much better with the Hodkinson and Bloomer notion of 'learning career' (which Winch and Clarke criticise) as the term itself suggests elements of careful planning and strategy applied over time (Hodkinson & Bloomer, 2002, p. 38).

Certainly, if 'having increasingly' in premise 3 is changed to 'electing', the postmodern version of lifelong learning deduced from the premises looks more plausible. Also, Winch and Clarke claim that even if proven, the premises 'may anyway simply represent a response to reliance on a narrow low-skill base rather than an inevitable feature of the labour market' (Winch & Clarke, 2003, p. 242). In the revised version this claim is dissolved, since *electing* to change jobs is not restricted to low-skilled workers.

Indeed, with the revised premise, the IT sector provides a high-skill example where all three premises are clearly true. Also, as this example illustrates, the notion of 'work ... being carried out on a non-permanent basis' in the second premise is somewhat ambiguous (see Wolf, 2002, p. 82). If permanent employment means having a job with guaranteed tenure, then probably most work has always been carried out on a non-permanent basis. If it means something like having a full-time job with reasonable prospects of retaining the job if performing satisfactorily, then we are in a labour market where this kind of 'permanency' is probably under growing pressure. ('Since the 1970s, employment security in some sectors has certainly declined', Winch & Clarke, 2003, p. 242). But by focusing on low-skill workers having to change jobs (presumably because their skills are not in sufficient demand to earn a living wage), Winch and Clarke are missing an important dimension of this phenomenon. These are the high-skill workers who elect to change jobs frequently, preferring varied short-term contract work, thereby continually expanding their skills over time. The IT industry provides many examples of this kind of worker, a type which exemplifies the Bloomer and Hodkinson notion of a 'learning career'. For such workers, the notion of a permanent job is not on their agenda—they often insist on shorter-term contracts than employers would like. But such workers do have 'job' (work) security of a kind—they possess skills that are much in demand and are likely to remain so. Also, they expand and refine their skills and knowledge by on-the-job learning. The potential for doing this is often the major factor in deciding which shorter-term contracts to enter into. So the 'postmodern version of lifelong learning' is a more complex phenomenon than the Winch and Clarke discussion suggests.

Winch and Clarke (2003, pp. 242–243) also challenge the premise that 'more work is being carried out on a non-permanent basis', citing UK evidence that 'between

the mid 1980s and the early 1990s, the overall proportion of temporary and part-time employment remained stable'. They further suggest that 'temporary workers tend to be relatively young, suggesting that temporary employment represents a specific early career phase'. But, as already noted, the notions of 'temporary' and 'permanent' work are ambiguous. There has been a clear trend in recent decades for organisations, firms and industries to outsource much work that was previously done by people with designated ('permanent') jobs within those organisations. Training and IT services are prominent examples of work that is increasingly outsourced. Much of this outsourced work is done by older, experienced workers who once had relatively stable, secure jobs but now work as contracted consultants. These positions are permanent in one sense, in that the incumbents have experience, knowledge and skills that are currently in demand, but they are not permanent in the sense that there is any long-term security or industrial protection for these workers. In some cases they may be forced to adapt their skills to other related work or face unemployment. VET in Australia provides an example of these trends. As successive governments have sought to create a competitive market for VET, and have encouraged increasing tendering activities between public and private providers, many of the best public sector teachers have moved from what were permanent, secure positions to become short-term contractors and consultants in the private sector. So by focusing only on the phenomenon of young people starting with casual short-term employment before moving into a more stable job, as Winch and Clarke do, important changes in other parts of the labour market are masked.

## **Conclusion**

This paper has argued that, rather than front-loaded vocational preparation and on-the-job learning being viewed as alternatives, the proper perspective for the twenty-first century is to devise ways of fruitfully integrating them. While this much can be established from conceptual considerations, the exact forms that such integration should take are to be determined empirically. There are already plenty of examples of the two being successfully integrated, e.g. in various professions. VET policy more generally needs to address this issue. As Cairney concludes:

the knowledge based economy demands new skills that differ from those derived from traditional conceptions of work. It follows, then, that such a skill formation process also needs to be supported by a VET system that has moved beyond one based on previous traditional conceptions of work. The VET system needs to re-examine its role and delivery strategies as we enter an age of increased demand for new knowledge, generic skills and workers who are equipped for lifelong learning. (Cairney, 2000, p. 17)

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