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Realising the educational worth of integrating work experiences in higher education

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Across advanced industrial economies, programs in higher education are increasingly becoming occupationally specific and universities as are being seen as providers of 'higher vocational education'. With this have come expectations that graduates from these programs will enjoy smooth transitions into professional practice. Aligned with these expectations is an educational emphasis on providing students with access to and engagement in authentic instances of practice and an expectation that these will be effectively integrated within higher education programs. Consequently, it is important to understand how these kinds of educational purposes and processes can be realised and how higher education students' experiences in both university and practice settings should be best organised and integrated to realise these purposes. This paper discusses the worth of these educational purposes and bases for realising the effective integration of these work experience. This discussion includes considerations of the kinds of curriculum and pedagogic practices needed to be enacted to secure this educational worth.

Work integrated learning and higher education

Across many advanced industrial economies, there is a shift in the emphasis within university programs towards those that are primarily concerned with the preparation for specific occupations and away from the liberal arts (Lomas, 1997). This change has led to descriptions, sometimes pejoratively, of universities now primarily being involved in 'higher vocational education'. With this shift in focus to more occupationally specific courses have also come expectations that graduates will enjoy smooth transitions from their university studies into professional practice (DIUS, 2008). That is, graduates are expected to have the capacities to engage immediately and effectively in the professional setting where they secure employment. However, these kinds of purposes are not novel to higher education. They have been long exercised by the North American co-op movement, through its provision of extensive periods of workplace placements (e.g., internships) and also through practicums in such courses as medicine, nursing, physiotherapy in a lot of places and for a long time (e.g., Boud & Solomon 2001). Arguably, these kinds of outcomes are what most higher education students want, employers increasingly demand, and governments expect (BIHECC, 2007). Yet, to get close to realising these kinds of outcomes across higher education programs requires the organisation of learning experiences that can best develop these occupational capacities. All of this is leading to a growing interest in and an emphasis on work integrated learning within higher education, albeit taking different forms across different disciplines and countries.

Understandably, some educators view these changes as being problematic and being the antithesis of higher education. There are also concerns that the imperatives of particular instances of practice (e.g., workplaces) will be privileged over other educational purposes, specifically those often associated with university courses. These purposes include developing broadly adaptable knowledge and critical stances, rather than meeting particular sets of social and economic goals. These are important reservations and need to be taken seriously. However, these different purposes are not necessarily as inconsistent or irreconcilable as they might first seem. Work requires the constant adaptation of knowledge and criticality in practice because its

requirements are distinct and subject to constant change (Author, 2006a). Moreover, the capacities for professional work go beyond technical knowledge or ways of knowing (e.g., Aristotle's concept of *techne* or applied science) and are associated with the exercise of critical faculties within domains of occupational practice. Hence, there are important and urgent issues associated with understanding, identifying, and utilising the educational worth of authentic experiences and proposing how the integration of these experiences might best proceed within university courses.

In all, we need to address the question: How should we proceed as higher educators? Offered here is a perspective from learning and curriculum theory about such a progression. The paper proposes finding a more legitimate place for and acknowledging the significance of integrating experiences in practice and academic settings. Yet, in doing so, there is a need to guard against these provisions only reproducing occupational capacities, important though these are, and failing to develop the kinds of critical capacities that are required for professional practice. This circumstance would serve few interests: certainly not those of the graduates, the settings in which they practice, nor their occupation or the nation. Yet, educational provisions need to offer more than the rehearsal of existing critical educational perspectives of the development of specific occupational practices and offer contributions to understand how critical perspectives can be utilised for the productive purposes of learners and community. In essence, workers need to be critical and adaptive in their practice, and these perspectives can contribute to that.

The perspective offered here focuses on understanding learning through relations between the personal and social contributions to human development (i.e., learning) and the remaking of culture (developing further culturally-derived occupational knowledge) (Author 2006b, 2008) and curriculum perspectives emphasising learning through practice (Author, 2006c). These perspectives acknowledge that both contributions are important, yet mediated by social forms and practices, and shaped by the personal process of construing and constructing what is experienced. It is held that individuals' ongoing process of knowledge construction serves to bring about changes in their knowledge and also the practices they enact. Just as learning arises constantly through thinking and acting, culturally derived practices are also remade. Also, conceptions of curriculum here are inclusive of the ordering and enactment of opportunities for learning through practice.

The case made here is that all education is broadly vocational, and where the educational purposes are about occupational preparation then these purposes and those of specific vocational education are one and the same. The case is structured as follows. Firstly, consideration is given to the two distinct meanings of the concept of vocations: as an occupation and a personal trajectory. The concern here centres on the educational implications of the relations between these two conceptions. It is proposed that when referring to paid work, unless there is personal assent to that work, it is unlikely to be seen by individuals as their vocations. This assent shapes how individuals engage with work activities and learn about and through work activities. Consequently, the education imperative is to identify productive relationships between these two conceptions. Following this, it is proposed that all education should be vocational, in so far as education ought to assist individuals to realise their vocations in either the short or long-term, in specific or general ways, and in its paid or non-paid forms. Hence, it is important to understand the kinds of knowledge that need to be learnt for individuals to identify and realise their vocations. This does not imply that all education has to be occupationally specific. However, where it is, this knowledge includes the domain-specific conceptual, procedural, and

dispositional knowledge associated with occupations and the development of the capacities to use that knowledge effectively and strategically in particular practice settings. Consequently, more than the canonical knowledge of the occupation, there is a need to understand how this knowledge is required to be enacted for effective performance in particular settings of the kind where students experience and learn through practice. Also, and as importantly, it is necessary to account for individuals' capacities to be strategic and adaptive, and to innovate. Yet, when considering the learning of this knowledge, it is necessary to be aware that the construction of rich conceptual, procedural, and dispositional knowledge is not the sole province of experiences provided in educational institutions. These kinds of knowledge can also, and perhaps optimally, be learnt through experiences in practice settings and through authentic experiences. Moreover, each of these two settings has its own particular attributes and, when these are integrated, the learning experiences are most likely to be generative of robust and critical legacies. Furthermore, beyond the experiences provided and encountered in these two settings, and through which individuals are invited to learn, is the important role that individuals play as active and directed meaning makers.

In all, it is proposed that to secure the educational worth of these experiences, particular curriculum and pedagogic responses are needed prior to, during, and after students' engagement in practice-based learning experiences in order to maximise their contributions and integrate those experiences. In addition, is the importance of students' agency as active learners, and the important role that agency plays in realising the effective integration of these two sets of experiences. Consequently, the means to secure a rich integration of practice-based experiences into higher education programs, requires a particular set of couplings of pedagogy, curriculum, and personal epistemologies.

Vocations

The term 'vocation' is typically seen as having two distinct meanings. The first is that of an occupation or form of paid work that has particular societal purposes that have arisen over time. That is, occupations arise from a societal need for particular goods and services. These occupations are seen to have distinct purposes and orderings, and to be of particular kinds of worth as judged by societal sentiments or community preference. For instance, the different valuing of work that is seen to be more or less manual in character and requirement reflects a societal sentiment about distinctions between mental and manual work (Whalley & Barley, 1997). Second, vocations can be seen as a personal journey or trajectory, including 'a calling' or what individuals are called to do either because of its alignment with their personal disposition or preference or societal press to undertake this form of employment (Hansen, 1994; Higgins, 2005). Indeed, throughout human history, most people have been called to their occupation through the circumstances of their birth. Only in recent times has occupational choice been available for most of the population. This conception of vocation can be taken quite broadly as both a personal trajectory and set of educational goals. For Dewey (1916, p. 310) "the dominant vocation of all human beings at all times is living-intellectual and moral growth." This view of vocations emphasizes the development of individuals and also the worth of this work as being positioned as much on individual development as a societal purpose. Indeed, Dewey (1916, p. 307) proposed that:

A vocation means nothing but such direction in life activities as to render them perceptibly significant to a person, because of the consequences they accomplish, and are also useful to his [sic] associates. ... Occupation is a concrete term for continuity. It includes the development of artistic capacity of any kind, of special scientific ability, of effective citizenship, as well as professional and business occupations, to say nothing of mechanical labor or engagement in gainful pursuits.

In this way, Dewey does not privilege occupations on how the social world labels them, preferring instead to premise their significance on what they mean to individuals and their associates. He suggests: “We must avoid not only limitation of conception of vocations to the occupations, where immediately tangible commodities are produced, but also the notion that vocations are distributed in an exclusive way, one and only one to each person” (Dewey 1916: 307). Therefore, rather than suggesting that individuals are identified only in terms of their paid work, Dewey proposes that they are likely to have a range of vocations that are important to their sense of self and their engagement with those vocations. However, within this definition, the worth of vocations is aligned to purposes that have social dimensions, values, and standing, and that are likely also to furnish the needs of individuals in particular ways. For instance, although across the general community the occupation of coal-mining may not be highly esteemed, in a coal mining community it has particular potency, even more so when an individual is seen as very competent miner. Indeed, later, Dewey proposed a vocation as any purposeful and continuous activity that involves a service to others and also engages personal powers in a way that fosters growth of the individual (Dewey, 1933, pp. 350-360). Given this, vocations are held to be both personally purposive and socially aligned practices. Indeed, this societal and personal purposefulness is evident in the suggestion that the “opposite of vocation is not leisure or cultural activity, but activity that is capricious and involves parasitic dependence on others, rather than cumulative achievement in experience for the individual” (Quicke, 1999, p. 132). Hence, a central concept for a vocation is that it is of worth to both individual and the community. Yet, within all this, the positioning of individuals as both practitioners and learners is important. A key difference between what constitutes paid work as employment and a vocation is the degree to which individuals identify with that activity. Martin (2001, p. 257) suggests that “vocations are the work we choose to do as distinct from the job we have to do.” Similarly, Hansen (1994, pp. 263-64) states that:

... being a teacher, a minister, a doctor, or a parent would *not* be vocational if the individual kept the practice at arm’s length, divorced from his or her sense of identity, treating it in effect as one among many indistinguishable occupations. In such a case, the person would be merely an occupant of a role. This is not to say the person would conceive the activity as meaningless. He or she might regard it as strictly a job, as a necessity one has to accept, perhaps in order to secure the time or resources to do something else. Thus, in addition to being of social value, an activity must yield a sense of personal fulfilment in its own right in order to be a vocation.

Consequently, helping individuals to identify to what occupation they are suited, assisting them develop their capacity for productive engagement in that occupation, and then further developing their vocational capacities needs to account for more than

just learning the knowledge required to enact the occupational practice. Instead, it also needs to be aligned with individuals' purposes and interests. This alignment is essential given the effortful process of construction of the kinds of knowledge required for demanding and complex occupations, such as those exercised by the professions. That is, beyond individuals' existing capacities, the exercise of the effortfulness required for rich learning is likely to be premised on their interests. So, the learning of the cognitive and procedural capacities to practise their preferred occupation requires individual agency, engagement, assent, and intentionality. None of these are likely to be forthcoming in wholly productive ways unless individuals find meaning in the occupation that they are learning and/or practising.

Therefore, anything that passes as education needs to be vocational: addressing individuals' needs and trajectories. That is, all education should be vocational, in so far as it seeks to assist individuals realise their vocations in either the short or long-term, or in their paid or non-paid forms. Moreover, given the importance of learner engagement, there is a need for curriculum and pedagogy to focus on meeting the needs of learners, not just their selected occupation. However, first, it is necessary to rehearse the concept of vocations and their relations with education.

Vocations and education

Dewey (1916) proposes two purposes of education for vocations. These are to assist individuals: (i) identify to what occupations they are suited, and (ii) develop the capacities to realise their vocations. Perhaps, given the constant change in the requirements for work, there is now a need for a third purpose. That is assisting individuals maintain competence across working lives, which includes transitions to other and different occupations (Author). Indeed, there is growing and broadly based interest in the need to maintain competence throughout working life, with governments and employers (OECD, 2000), as well as workers themselves, being concerned that they have the capacities to meet new occupational challenges and resist redundancy in their working knowledge (i.e. the lifelong learning agenda) (Field, 2000).

However, the key focus and emphasis in this paper is on the second of Dewey's concerns: assisting individuals develop the capacities to realise their vocation (i.e., be effective in their preferred occupation). This includes understanding the goals for occupational preparation and how best can integration of all experiences in academic and practice settings contribute to generating occupational expertise.

Through two decades of focused inquiry into what constitutes expert performance, largely within cognitive psychology, but not restricted to it, there has been developed an understanding of the kinds of knowledge required for effective occupational practice (i.e., expertise) (Chi, Feltovich, & Glaser, 1981; Chi, Glaser, & Farr, 1982; Ericsson & Lehmann, 1996; Glaser, 1989; Larkin, McDermott, Simon, & Simon, 1980). This inquiry sought to capture the kinds of qualities that distinguished experts from novices to understand how the latter could best progress to the former. It found that effective occupational performance relies upon three kinds of knowledge. These are:

Domain-specific conceptual knowledge – 'knowing that' (Ryle, 1949) (i.e., concepts, facts, propositions – surface to deep) (e.g. (Glaser, 1989)

Domain-specific procedural knowledge – 'knowing how' (Ryle 1949) (i.e., specific to strategic procedures) (e.g. (Anderson, 1993)

Dispositional knowledge – ‘knowing for’ (i.e., values, attitudes) related to both canonical and instances of practice (e.g. (Perkins, Jay, & Tishman, 1993), includes criticality (e.g., Mezirow, 1981)

These kinds of knowledge pertain to a particular domain of activity (e.g., an occupation), and suggest that, rather than generalisable capacities, expert performance is largely specific to a domain of activity in which individuals have to participate and perform. Each of these kinds of domain-specific knowledge has their own qualities (e.g., specific and strategic procedures, factual to complex conceptual premises) that have arisen through history, and that have cultural relevance and situational pertinence. These qualities are likely to be developed by individuals through opportunities to engage in and construct personal domains of this domain-specific occupational knowledge. Indeed, there seems to be at least three levels of these forms of domain-specific knowledge (Scribner 1984; Author 2001c). First, there is the canonical knowledge of the occupation that comprises the knowledge that constitutes what all of those practising this occupation would be expected to know. Then, there is the manifestation of the occupational requirements where the occupation is practised, the knowledge required for a particular instance of practice. Third, is the personally constructed domain of occupational knowledge that arises ontogenetically (i.e. throughout individuals’ life history). Consequently, to become effective as a practitioner there is a need to develop the domain-specific procedural, conceptual (Glaser, 1984), and dispositional (Perkins et al., 1993) capacities required for the occupational practice. These are the domain-specific procedures, concepts, and values required to be a doctor, hairdresser, plumber, vacuum-cleaning sales person, or lighthouse keeper. In addition, there is the particular set of concepts, procedures, and dispositions that are required for effective practice: that is the requirements of the particular circumstances in which doctoring, hairdressing, plumbing, vacuum-cleaning, and lighthouse keeping are practised (Author, 2001b). These forms of knowledge are those required to be accessed and constructed by individuals seeking to learn them.

Conceptual or declarative knowledge comprises concepts, fact, propositions, and richly interlinked associations among these. This form of knowledge can be spoken about and written down. Hence, this knowledge is sometimes termed as ‘declarative’ (Anderson, 1982; Glaser, 1984). Much of this knowledge can be represented in books, texts, and other forms of media or artefacts. The progression of the complex conceptual development tends to move from understanding basic factual knowledge through to propositions and associations between conceptual knowledge. Deep conceptual knowledge is usually associated with understanding the relations between sets of concepts and propositions, of this kind (Groen & Patel, 1988).

Procedural knowledge, on the other hand, is the knowledge that we use to do things, yet which cannot be easily declared or easily represented, because much of it is rendered tacit in its construction (Anderson, 1982; Shuell, 1990). This form of knowledge is required to be engaged with and practised in order for its development to occur. The progression from specific procedures through to strategic knowledge is seen as a process of rehearsing specific procedures in ways that remove the need for conscious memory to be enacted in their deployment, permitting that conscious memory to focus on more strategic issues (Anderson, 1982). This development, at all levels, likely arises from the opportunity to participate in a range of activities and interludes associated with the particular domain of activity for which the procedures are being developed. At one level, the rehearsal of specific procedures permits them to

be undertaken without conscious thought. At another level, the repertoire of experiences that individuals can access and understand leads to the ability to predict and evaluate performance.

Dispositional knowledge comprises interests and beliefs, which not only energise the use and development of concepts and procedures (Perkins et al., 1993), but also shape the direction, intensity, and degree of their enactment (Author, 2008b). Dispositions are likely developed through individuals beliefs and are negotiated through their encounters with particular experiences.

The salience here is of finding ways in which individuals' conceptual, procedural, and dispositional development can progress for them to realise their selected occupation as a vocation. These three forms of knowledge are richly interconnected and interdependent. However, the effectiveness of this interdependence usually arises through episodes of practice in which these forms of knowledge are deployed and developed together when enacting work activities (Author, 2001c). This process provides bases for understanding the particular set of circumstances for goals to be achieved and procedures advanced. It is through these episodes of practice that certainty about performance is developed, procedures automated, and dispositions tested. Importantly, however, each occupation requires particular kinds of concepts, propositions, norms and procedures, sets of values, and organising ideas that constitute its canonical knowledge. This is the kind of knowledge that is often attempted to be stated as occupational standards and captured as statements for performance and curriculum content and outcomes. Yet, while this canonical occupational knowledge is important and needs to be learnt, and is often the focus of educational efforts, occupational performance is also shaped by situational factors that constitute the requirements for performance in practice.

Importantly, there is no such thing as an occupational expert per se; only in the circumstances where that practice is enacted is it possible to make judgements about the efficacy and elegance or otherwise of that practice. So, not only does expertise take time and extensive repertoires of experience to develop and hone (Anderson, 1982), but it is shaped through particular episodes of experiences that comprise situated instances of practice. However, and importantly, this occupational knowledge is more than 'techné' - technical capacity, it is far broader and more encompassing. Even when taking a narrow view of vocational expertise, "there is also the need to: generate and evaluate skilled performance as technical tasks become complex and as situations and processes change, reason and solve technical problems, be strategic, innovate and adapt" (Stevenson, 1994, p. 9). Moreover, professionals also need critical insights and to be reflexive in how they apply what they know, as requirements for work change or are shaped by particular situational requirements that cause decisions to be made about how to progress amongst a range of possible options.

Importantly, Dewey's (1916) ideas should not be taken to refer a highly reproductive model of education or one that is just responsive to the needs of powerful interests. Rather, his key concern was that vocational education should not be beholden to powerful industrial interests, nor be so specific as to be highly reproductive. Certainly, he did not advocate an educational provision beholden to industry or industrial interests.

The kind of vocational education in which I am interested is not one which will adapt workers to existing industrial regime; I'm not sufficiently in love with that regime for that. It seems to me that the

business of all who would not be educational timeservers is to resist every move in this direction, and strive for a kind of vocational education which will first alter the existing industrial society, and ultimately transform it. (Dewey, 1916, p. 42)

Moreover, it is the kinds of experiences students have and what they do with them that likely lead to the development of a personal domain of knowledge for engaging strategically and critically in their selected occupation. However, it is also important to acknowledge the importance of effectively and faithfully reproducing the knowledge generated over time and that has well-served the profession and those it serves. It is not helpful for novices to engage in the epistemological adventures of Robinson Crusoe, so to speak. Indeed, it is the active process of remaking that knowledge which has been generated over time that is a core concern for higher education. This active learning is that which most likely leads to the development of rich knowledge. Hence, this process of knowledge construction needs to be accentuated in all forms of vocational education. Also, given the changing nature of work, the critical skills are required for most forms of contemporary occupations and, in particular, those that are nominated as professions. That is, there is a need for criticality in order to appraise changes in occupational requirements, technologies, and practices in order to understand their worth and applicability, and for what purposes (Lakes, 1994). Critical insights arise through experiences outside of educational institutions and processes (Knights & Willmott, 1989). Nevertheless, some scholars may suggest this kind of development is insufficient because they are not presented within a socially-critical framework. Yet, it is presumptuous to propose that this kind of criticality is something which only educators and educational institutions can impart. Indeed, this form is only one kind of criticality, and it has its own limits as well as strengths, and may not always be the key imperative or priority in assisting the development of the kinds of critical insights required for professional practice.

Certainly, in all, there is a need to provide explicitly critical and strategic insights and prepare students to use these insights. But, beyond what educators intend and enact, learners will necessarily be engaged in adaptive and critical thinking as they apply what they have learnt through participation in educational programs into practices and settings that are quite distinct from those in which they have learnt them. It seems that individuals are actively remaking the socially derived cultural practices in which they engage (e.g., Giddens, 1991; Leontyev, 1981). It follows that developing and guiding the exercise of personal epistemologies becomes an important educational priority as others have long argued, albeit in different forms (Brookfield, 1997; Marsick, 1988; Mezirow, 1985; Simon R I, Dippo D, & Schenke A, 1991). Hence, a key role for university educators is to guide this criticality so that it is directed in productive ways rather than leads to disillusionment from confronting or uneasy experiences in workplaces, for instance.

Orientations for integrating practice experiences into the curriculum

Before advancing how experiences in practice settings might be utilised and integrated into the higher education curriculum, it is worthwhile rehearsing some assumptions about learning and curriculum. These assumptions are the kinds of premises for how what is discussed below progresses and is supported.

First, learning is a continuous process that occurs across all kinds of activities and the range of settings where humans think and act. The ongoing processes of

thinking, acting, and learning co-occur (i.e., simultaneously); they are not separate. Sometimes that learning will be incremental, sometimes it is transformational. Second, there is a cognitive legacy arising from our activities and interactions, or as Rogoff and Lave (1984) remind us: Activity structures cognition. Third, experiences in educational institutions are not pedagogically privileged. The development of robust (i.e., transferable) knowledge is as likely to arise as much through experiences in practice, as it does through 'schooling' (Raizen, 1991; Scribner, 1984). Instead, what is important is the quality of what is experienced (i.e., activities and interactions) and how those experiences are engaged with by learners (Author, 2001c). Fourth, both practice and academic settings provide particular kinds of experiences and potential contributions to students' learning. Each of these settings affords particular potentials for the learning of occupational practice. Therefore, we need to understand how best to organise, sequence, and engage learners in both practice and educational settings, and productively integrate experiences across them. Fifth, individuals' taking up of those experiences (i.e., their construal and construction) will not be uniform because this process is by degree person-dependent, being premised upon what they know and have previously experienced (Valsiner, 2000). Consequently, it is important to consider both the provision of experiences and individuals' taking up of those experiences.

So, here curriculum is more than what educational institutions and work settings intend to occur (i.e., intended learning) or something enacted by teachers and practitioners through educational settings. Ultimately, curriculum is something experienced by learners. Its value is in what is constructed from those experiences. Hence, it is important to be reminded that educational provisions are nothing more or less than an invitation to change. One way to conceptualise these processes is through consideration of affordances and engagements (Author, 2001a). Affordances comprise the invitational qualities of the experience (i.e., degree by which students are invited and supported in their learning) in both academic and practice settings. This includes the experiences that are provided for them, the kind of support they receive, access to activities, and guidance from more experienced and expert practitioners. However, affordances can be negative as well as positive. That is, the barriers to participation and engagement in work activities is often a feature of contested workplaces (Bernhardt, Morris, Handcock, & Scott, 1998). Equally, some students identify educational institutions as being uninviting and not affording them the kinds of opportunities that they require to access and learn occupational concepts, practices, and dispositions (Bowles & Gintis, 1976; Lehmann, 2007).

Engagement refers to how students engage with and learn through what they are afforded (Author, 2006b); how they take up that invitation. Given that individuals are meaning-makers and that the quality and kind of their learning is mediated by how they elect to participate in workplace activities and interactions, learner engagement becomes very important. So, even the most invitational of learning circumstances might be construed by an individual as being un-invitational (Bernhardt et al., 1998), uninteresting, or not worthy of their interest (Cho & Apple, 1998) and effort (Hodges, 1998). Alternatively, an environment that might be seen to be un-inviting, can be rendered an effective learning environment by the actions of agentic learners (Billett, McCann, & Scott, 1998). Moreover, the kinds of knowledge that individuals have, their access to discourses, and their preferences and skills will shape how they engage with activities and interactions in both settings. Hence, the learning that derives from students' participation in any given activity is not dependent upon the affordances of

the educational institution or workplace, but how individuals elect to engage with what is afforded them in both education and practice settings.

Consequently, considerations for organising effective learning experiences extend to not only what they mean to students (i.e., worthwhile and worth engaging with), but also to how learners can be active in maximising what is afforded them. This includes their negotiation of circumstances of low affordances, such as when teachers or experts are not readily available. All this leads to the question: What combinations of affordances and engagement are most likely to secure robust and critical professional knowledge? In addressing this question, this paper largely focuses on the contributions of experiences in practice settings and how these might be integrated with those in higher education settings.

Contributions from practice settings

It follows from the previous section that it is necessary to consider how experiences in practice settings can assist higher education students to: (a) understand their selected occupation, and (b) develop the capacities to practice effectively and enjoy smooth transitions to practice. The first of these is briefly dealt with here and a greater consideration is given to the second.

Identify to what occupations individuals are suited

As noted above, Dewey (1916) argued that it was important to find out what occupations suit particular individuals. To do otherwise, he cautions, risks individuals being engaged in work in which they had little interest or that had little basis for becoming their vocation. Indeed, identifying what occupations suit individuals was advanced as a key goal for vocational education. Dewey proposed that:

An occupation is the only thing that balances the distinctive capacity of an individual with his [sic] social services. To find out what one is fitted to do and to secure an opportunity to do it is the key to happiness. Nothing is more tragic than failure to discover one's true business in life or to find that one has drifted or been forced by circumstances into an uncongenial calling. (Dewey 1916:308)

Dewey used the examples of galley slaves, who were coerced into this work, to illustrate work that is not individuals' calling. Yet, a more common risk in contemporary times is that individuals will elect to engage in a particular occupation because others (e.g., parents, friends) think they should, even though it may not be their preferred option. The expectation that those securing a high university entrance score would automatically enrol in courses preparing students for prestigious occupations such as medicine, is not so far away.

One particular way in which practice-based experiences can assist here is to provide opportunities to trial and experience occupations. This offers individuals opportunities to understand whether or not they are suited to an occupation or which parts of an occupation best suit their interests and capacities. In one recent project (Author), senior high school students expressed concern about not knowing whether they would enjoy and be suited to their selected occupation until they were in the third year of their degree programs. These school students commented wisely that by then they would have expended a lot of time and committed significant financial resources to this occupation, yet without knowing whether it suited them. This raises the issue of at what point in students' development should they be able to access their preferred

occupation. For instance, although many individuals are attracted to particular occupations because of their profile or their apparent suitedness to their gender, these choices might be ill-made. For instance, we know that many young women select hairdressing, nursing, or dental assistance work as a gendered choice, yet find them unsuitable occupations once they have engaged in or even completed their preparation. Moreover, as somebody who used to teach in fashion studies, I was constantly engaging with students who had idealistic and quite unrealistic conceptions of what working in the fashion industry comprised.

Developing these capacities through effective occupational practice

Beyond identifying the occupations to which individuals are suited, experiences in practice settings (e.g., workplaces) provide access to activities through which the kinds of knowledge that they need to learn are provided. Therefore, it is important to consider how that learning can be best structured, organised, and refined. A programme of research that examined learning through work by workers from a range of different kinds of occupations (Author, 2001c) concluded that some of the key strengths of learning through workplace experiences were as follows: (a) access to authentic work activities (i.e., authentic activities, novel and routine); (b) observation and listening – cues and clues (indirect guidance); (c) access to more experienced co-workers (direct guidance – development of heuristics) and (d) practice – opportunities to reinforce refine and hone. These contributions to learning were verified as being quite common across a range of different industries by workers engaged in a range of different kinds of work and with quite different knowledge requirements. That is, participation in everyday work activities furnishes a range of contributions that can support individuals' learning. Nevertheless, a series of limitations to learning through practice was also identified. The limitations comprise: (a) learning bad habits and dangerous or inappropriate shortcuts; (b) the lack of opportunity to practice or extend; (c) lack of support and guidance; (d) undertaking tasks but not understanding what or why (i.e., the failure to develop understanding); (e) experiences that constrained individuals' learning because of a lack of support; and (f) experiences that were personally or professionally confronting and which inhibited the development of positive occupational identity.

These contributions to and limitations of learning from work will be manifested in different ways across different occupations and workplace settings. For instance, in a current study, while all student nurses understand and appreciate the importance of clinical experiences to assist their development, and would likely concur with the list of positive contributions above, in different ways, they also experience some of these limitations (Newton et al., 2007). For some, the preceptor (i.e., mentor) and more experienced nurses with whom they work are helpful in assisting their work and learning. Yet, in other circumstances, these preceptors restrict the quality of the learning experiences.

It follows that when considering integrating experiences in practice settings, it is important that we seek to utilise the productive contributions and redress, or attempt to limit, those that potentially can lead to unhelpful or insufficient learning. In short, we as educators need to work to maximise the contributions of practice settings while addressing these limitations.

Integrating practice-based experiences

Within the curriculum and pedagogic practices of contemporary higher education it is therefore important to advance approaches that can support the effective integration of

practice-based experiences. A helpful starting point is to acknowledge that both kinds of settings make particular contributions to students' learning (Author, 2007b). The academic setting can provide access to a range of conceptual bases, premises for procedures, and access to norms associated with a particular occupation. Moreover, academic settings can provide experiences in which to reflect upon this knowledge, and what is experienced in other settings, such as those where practice is conducted. Practice settings, as noted, provide a range of experiences that are authentic in terms of the enactment of an occupation in particular work situations. These experiences provide access to a range of contributions that are richly informative in terms of conceptual, procedural, and dispositional development. It follows that a key consideration for integrating practice-based experiences in higher education curriculum is to utilise their key contributions and, if possible, redress or prepare students for the potential limiting experiences that they might encounter (Author, 2007a).

Given the central role of learners in taking up these invitations, it is also important to emphasise the salience of students as agentic learners. It is students who participate in, negotiate, and learn in and across both practice and university settings. They, not their teachers or mentors, are the meaning makers who negotiate learning across these settings, although their teachers or mentors can mediate that learning. As foreshadowed, the process of learning is ongoing and ubiquitous, yet is shaped by what students encounter in educational institutions and practice settings and how they construe, construct, and engage with what is afforded them. Therefore, active engagement and learning by university students is a likely pre-requisite for the higher order learning required for the principle-based and codified forms of occupational knowledge. Moreover, this kind of engagement is applicable for many, if not most, forms of occupational practice, and not only for the top-end professionals (e.g., law and medicine). Indeed, the expectation for those whose occupation carries the moniker of 'professions' is for practitioners to be self-directed in the learning to maintain the currency of the professional practice: to profess. The point here is that the very qualities needed to be an effective student in higher education -- a proactive and agentic learner -- are those required for effective professional practice. In essence, the agentic qualities of learners are essential for effective professional practice and rich learning. Consequently, more than attempting to organise experiences for students in educational institutions and workplace settings, there is a need to focus on preparing students as agentic learners, as part of their professional preparation.

In the following section, some tentative pedagogic and curriculum considerations are advanced for promoting the integration of students' experiences in both academic and practice settings. These considerations are presented in overview and organised under three headings: those associated with what should happen before, during, and after practice-based experiences. These considerations are drawn tentatively from previous work and initial findings of a project that seeks to integrate student learning experiences across the disciplines of human services, physiotherapy, nursing, and midwifery that are representative of growing fields of occupationally specific higher education courses (Author, 2008c).

In overview, these considerations are as follows.

Prior to the practice experience, it is helpful to:

- establish bases for experiences in practice setting, including developing or identifying capacities in practice settings (i.e., practice-based curriculum, interactions);
- clarify expectations about purposes, support, responsibilities et cetera (i.e., goals for learning);
- inform about purposes, roles, and expectations of different parties (e.g., advance organisers);
- prepare students as agentic learners (i.e., develop their personal epistemologies) – including the importance of observations, interactions, and activities through which they learn;
- develop the procedural capacities required for practice; and
- prepare students for contestations (e.g., being advised to forget everything learnt at university).

During practice-based experiences it is helpful for there to be:

- direct guidance by more experienced practitioners (i.e., proximal guidance);
- sequencing and combinations of activities (i.e. ‘learning curriculum’, practice-based curriculum);
- active engagement in pedagogically rich work activities or interactions (e.g., handovers);
- effective peer interactions (i.e., collaborative learning); and
- active and purposeful engagement by learners in workplace settings.

After practice-based experiences, it is helpful to:

- facilitate the sharing and drawing out of experiences (i.e., articulating and comparing - commonalities and distinctiveness e.g., canonical and situational requirements for practice);
- explicitly make links to what is taught (learnt) in the academy and what is experienced in practice settings;
- emphasise the agentic and selective qualities of learning through practice (i.e., personal epistemologies); and
- generate critical perspectives on work and learning processes in students.

These curriculum and pedagogic activities are presented as tentative, and likely manifested in particular across different programs (e.g., those with shorter or longer durations of practicum experiences), and will be more applicable to some occupations than others. However, they offer a starting point for considering the effective integration of experiences in university and practice settings. From these, and considerations associated with the integration of experiences for higher educational purposes, the following renderings for pedagogy, curriculum, and personal epistemologies are worth previewing. To realise the educational worth of integrating practice experiences within higher education provisions there is a need to:

- identify and acknowledge the pedagogic potential of practice experiences, and consider how these can be engaged and integrated within higher education curriculum to maximise students’ learning experiences;
- include within curriculum considerations for higher education and about how best to prepare for, position, sequence, and identify the most appropriate duration of practice experiences, and consider support for learning from those practice experiences; and

- identify what kinds of experiences might best develop, sustain, and utilise students' personal epistemologies, including their critical engagement and reflection.

In sum, it is timely and appropriate to reconsider the worth and appropriateness of practice-based experiences and for their educational worth and potency to be elaborated and appraised. These need to be advanced on bases that acknowledge their contributions more fully and that legitimise and dignify them through clearly articulated and validated sets of pedagogic, curriculum, and epistemological bases. It is these kinds of educative actions that can be planned for, enacted, and experienced in realising the educational potential of practice-based experiences. From these bases, it might be possible to fully integrate practice based experiences within the totality of higher education experiences that are generative of developing robust and critical occupational knowledge.

Realising the educational worth of integrating work experiences in higher education

In conclusion, it is proposed that effective occupation preparation and prospects for 'smooth' transitions to professional practice will most likely be enacted by graduates who are informed and prepared and have capacities for professional practice, including critical insights and personal epistemologies directed to those purposes. This includes preparing students to be proactive learners, capable of exercising critical, but productive, agentic learning. Moreover, the generation of these capacities likely arises through including and integrating episodes of practice-based experiences within the totality of higher education curriculum. In order to offer these kinds of experiences and realise their potential benefits, mature relations between academics and practitioners, and between academic institutions and practice settings are likely to be helpful. However, such relationships are difficult to generate and sustain in realising these transitions, given the different imperatives of educational and practice-based settings, and tensions that can arise between distinct goals and priorities. Nevertheless, these arrangements stand to be the most effective when they are supported by mature relationships between institutions focused on education and practice, and between/among practitioners from education and occupations. Mature relationships are those that acknowledge and accommodate collaboration and recognition of different imperatives and contributions. Importantly, practice-based experiences should not be seen as being opportune, or as a side issue, but brought centre stage within educational provisions. The key challenges for us as higher educators is to overcome existing orthodoxies that resist embracing learning through practice as being legitimate and productive, and support and acknowledge its contributions and understand that effective curriculum and pedagogy in practice settings are constructed differently from those in educational settings, albeit shaped by consonant concepts.

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