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Promoting graduate employability: key goals, and curriculum and pedagogic practices for higher education

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Securing employability outcomes have increasingly become a primary focus of governments, employers, higher education institutions and students. However, employability is more than the initial transition to work for graduates, it is about the ability to sustain employment and seek advancement across working life. Hence, tertiary education provisions need to focus on developing adaptability as a graduate learning outcome. Drawing on three recent teaching and learning projects in Australia involving over 40 sub projects from over 20 universities across a range of disciplines and adopting a sociocultural perspective of what the higher education experiences afford students, on the one hand, and how students come to engage with those experiences, this chapter seeks to identify how the development of graduate employability be generated. The chapter commences with the discussion about the ways WIL experiences can promote graduate employability from a sociocultural perspective, then advance considerations about how work integrated education (WIE) can realise the educational goals required to achieve it and then the alignment between those goals and the kinds of curriculum considerations and pedagogic practices that need to be adopted to achieve those outcomes. The two distinct phenomena (WIE and WIL) are also elaborated and their alignment with developing employability advanced.

Key words: Employability, adaptability, work-integrated learning, work-integrated education, curriculum theory, socio-cultural perspective

Promoting graduate employability

Governments, employers, higher education institutions and students are all seeking to secure employability outcomes from the provision of higher education. Governments are keen to promote economic goals and innovations, workplaces are needing workforces to respond to emerging challenges to be sustained, higher education institutions want strong graduate employment records and, most importantly, graduates want their investment in time, effort and resources to lead to employment in their chosen discipline. However, employability is more than securing initial employment for these graduates, it is about being able to sustain employment and seek advancement across working life. Hence, more than initial preparation for employment, tertiary education provisions need to develop the kinds of capacities that will allow its graduates to respond to changes and be adaptable as occupational and workplace requirements change and evolve over time.

Consequently, more than 'job readiness' (i.e., the ability to apply specific occupational capacities within particular circumstances of practice), higher education goals, curriculum and pedagogic practices need to focus on developing employability as a graduate learning outcome. Drawing on three recent teaching and learning projects in Australia in higher education that involves over 40 sub projects across over 20 universities across a range of disciplines and adopting a sociocultural perspective of what the higher education experiences afford students, on the one hand, and how students come to engage with those experiences (Billett, 2006). In all, this chapter seeks to identify how the development of graduate employability can be realised through work integrated education and work integrated learning to achieve these kinds of educational goals, and

the curriculum and pedagogic practices that are directed towards achieving those outcomes. Taking a sociocultural perspective, the chapter commences with a discussion about aligning work integrated education with employability goals. This includes a consideration of the kinds of educational goals and processes required to achieve it and the kinds of curriculum considerations and pedagogic practices needed to achieve those outcomes. The case is drawn upon are from a range of disciplines that constantly confront change in the requirements for work and the capacities of workers in those fields.

Aligning work-integrated education to promote employability

Work-integrated education (WIE) has the capacity to promote employability through considered design, enactment, and engagement (Cooper, Orrel, & Bowden 2010). These are important considerations as graduate employability and, specifically, the successful transition from higher educational programs to employment aligned with those programs is now a common and key goal for universities globally (Bennett et al., 2017; Jackson, Fleming, & Rowe 2019). Countries with advanced industrial economies are now focusing their higher educational programs to prepare graduates for successful transitions to work (Bennett et al., 2019) through the provision of workplace experiences and their integration with what is being learnt through those programs (Billett, 2015). There are often efforts to align what experiences are provided and what is taught to students with employable outcomes for graduates based on statements of professional occupational standards and/or national curricula. Added here are difficult labour market conditions for young people and uncertainties about ongoing careers that together are demanding higher educational experiences provide outcomes that are generative of graduate employability (Knight & Yorke, 2004). These demands are now being made by students, their parents, and employers, as well as by governments. Perhaps most commonly and narrowly, these concerns are directed towards **readiness for employment** upon graduation, sometimes referred to as being **'job ready'** (Jackson, 2016; Jackson et al., 2019). **That is, graduates having the capacities or being able to adapt what they have learnt from their higher education programs to the specific occupational and work practice requirements where they will seek employment** (Coll & Zegwaard, 2011). Yet, beyond this initial transition from tertiary education to employment, contemporary working life requires graduates to adapt what they know, can do, and value to respond to the changing occupational and workplace requirements that are necessary for remaining employed and securing advancement. It is not possible to predict what might constitute these changes, even in the short term as the recent coronavirus has indicated, let alone in the longer term. However, this emphasises the ability of graduates to be able to adapt to changes across their working lives. Hence, higher education provisions need to consider how this adaptability might be developed in its students and graduates. That is, higher education programs need to be able to develop and enact educational provisions that promote adaptability within the specific occupations for which students are being prepared and in which they will seek employment and advance their careers (Eraut, 2004; Jackson et al., 2019).

This requirement comprises a significant challenge to higher education in terms of the kinds of experiences it provides, how teaching progresses, and how students come to engage and learn (Bennett, Richardson, & MacKinnon, 2016). Yet, fundamentally, this is what higher education should set out to achieve: that is, developing (a) strong foundations of occupational knowledge, (b) understandings and practices comprising variations in the manifestation of those occupations as enacted in specific work settings, and (c) the capacities and agency to respond positively and effectively to these challenges (Billett, 2015). Whilst such propositions may seem ideal and aspirational, they are what higher education should aim to realise: generating students' capacities unconstrained by the circumstances of its generation, but that are broadly applicable.

Advanced here are considerations about how WIE can be positioned to realise these kinds of educational goals through supporting effective work-integrated learning (WIL) in ways leading to positive graduate outcomes, going beyond the transition from education to work and generating adaptive qualities in graduates (Billett, 2019). WIE comprises the design, organisation, and implementation of educational experiences in both work and educational settings intended to develop the kinds of capacities graduates will need to become employable. WIL comprises how students come to engage in and with experiences provided by both work and educational settings and how, through both situationally immediate and imaginary processes, they come to learn effectively and reconcile those experiences in ways aligned to promote their employability in both the short- and long-term. Here, employability is seen as more than securing employment after graduation. It is also about being able to respond to new tasks and challenges that arise in daily work, the capacity for advancement and/or broadening of roles, and being responsible for the currency of their professional knowledge.

This chapter draws upon curriculum theorisation and recent empirical studies to propose that these two distinct phenomena (WIE and WIL) can be viewed in terms of the intended, enacted, and experienced curriculum (Marsh, 2004). Importantly, the alignment amongst these concepts is directed towards developing the kinds of occupationally specific understandings, procedures, and dispositions, and those associated with effective engagement in working life, that have become the key goals for higher education (Billett, 2015). It is through these considerations that specific experiences are selected and provided for students, including the deliberate provision and integration of those experiences (i.e., the intended and enacted curriculum). But, without students being positioned to actively engage in and secure reconciliations and advancements amongst these experiences (i.e., the experienced curriculum) as directed towards their learning goals, the prospects for employability outcomes are likely far more limited (Lobato, 2012). Indeed, central to both the enacted and experienced curricula are the readiness and agency of both educators and students, who in the contemporary era are time jealous or time precious – not time poor – which shapes how they come to engage. This quality also emphasises personal as well as institutional factors.

Employability

With concerns about the role of higher education in securing graduate employability, it is worth considering what constitutes employability and what this means for educational provisions. Also, given the associated concerns about adaptability, there is a need to be clear about what employability means for being adaptable and the educational means for securing it. The conception of employability adopted here has four dimensions: (a) being employable (i.e. having specific work-related and occupational capacities); (b) sustaining employment (i.e. remaining current and employable); (c) securing advancement (i.e. gaining promotion or becoming more broadly skilled); and (d) transitioning to new/other occupations (i.e. being able to move into new occupations).

Firstly, securing employment in the occupations that are the focuses of students' studies and moving smoothly from education into that employment means that graduates will need the capacities required to enact the occupation, albeit at an initial level of competence, but in the particular circumstances where they are employed and meeting the requirements of that employment. Despite many students having work experience, it is quite likely that the workplaces where they will find employment will be different from those where they have had work experience. So, there will be a need to adapt and translate their occupational knowledge about, procedures for, and dispositions to that work situation; that is, adapting what they know, can do, and value to the specific requirements of the circumstances of practice.

Secondly, when employed, graduates will need to be able to respond to new challenges and circumstances and to the growing expectations of being more experienced workers. The findings

from the Programme of International Assessment of Adult Competence consistently indicate that across the countries where the survey has been administered, workers of all kinds and classifications are engaging in routine and nonroutine problem-solving in their work on a regular basis, with the former almost daily and the latter often weekly (Organisation for Economic Co-operation and Development [OECD], 2013). This means that they are needing to constantly deploy and extend their knowledge to complete work tasks and, in doing so, transform their knowledge when engaging in problem-solving (Shuell, 1990; Anderson, 1993). So, workers' ability to adapt what they know, can do, and value to changing circumstances of work is central to their ongoing employability as workplace and occupational requirements change.

Thirdly, across working life, opportunities for advancement or more broadly applying skills also require adaptability. Both forms of advancement require workers to adapt what they know, can do, and value to different circumstances and tasks. Across working life, it seems that this kind of learning is more often mediated by individuals themselves rather than through a reliance on others (OECD, 2013) or on educational programs or provisions that may serve some purpose here. However, ultimately, it is individuals' ability to adapt to new circumstances and tasks that is necessary for extending employability in the forms of advancement or extending the scope of occupational practices.

Fourthly, across working life, that kind of extension of occupational knowledge can also include changing occupations. This occurs for many people as their personal needs, preferences, or work situations change. It is in these situations that adaptability – that can extend to individuals' sense of self as a worker, the kind of capacities they have relied upon previously, and their standing in the community – is required when they adapt what they know, can do and value to a new occupation. Hence, to succeed in these transitions, maintain a positive sense of self, develop new capacities, and engage in different work communities all require being adaptive. Importantly, adults with work-life experiences often possess a range of capacities that permit them to move across different occupations, by being adaptable.

What is evident here is that employability is not just restricted to being able to secure employment. Instead, it is central to effectively sustaining employability across working life: in meeting the challenges in the transition to employment, responding to new challenges and expectations, securing advancement and/or broadening areas of occupational competence, and when needing or wanting to change the occupation in which one works. Across these dimensions of employability in lengthening working lives is the salience of developing the disposition and capacities to be adaptable, all of which have specific implications for WIL and WIE.

Work-integrated education and work-integrated learning

It follows from the above that educational provisions need to accommodate not only occupational practice having canonical and situational requirements, but also learners being engaged effortfully and intentionally. More than what is afforded students are the bases of their experiences when the curriculum is enacted, either in the educational or workplace setting, and how they come to reconcile these experiences and construct understandings, procedural capacities (i.e., to achieve goals), and dispositions associated with that practice. In these circumstances, it is helpful to distinguish between WIE and WIL. All too often the educational discourse has confused and conflated distinct concepts. So, to be clear, 'education' refers to provision of experiences, usually for intended purposes. Most educational experiences, in both educational institutions and work settings, are shaped by some form of intentions; that is, the intended curriculum (i.e., the sequencing, organising, and intended outcomes of those experiences). In educational institutions these are usually formalised by syllabuses, course outlines and the like. In workplaces, there are norms and practices about the progression of tasks in which novices and newcomers can engage.

These arrangements arise from human society and are what is referred to as institutional facts (Searle 1995). In contrast, learning comprises change in individuals arising from experiences. This is something people do; how they respond (i.e., learn) from those experiences is individually mediated – it is a personal fact (Billett, 2009a). There can be no guarantee that what is intended to be learnt through the educational experience will be learnt (Marsh, 2004). Individuals will come to construe and construct knowledge from what they experience in person-particular ways depending upon their readiness (i.e., what they know, can do, and value), their interest, and their ability to engage. Therefore, when moving beyond education as transmission, and particularly in circumstances such as students' workplace experiences where learner engagement, agency, and interdependence are paramount, it is necessary to make these distinctions. They are salient to the projects of education and learning, and both are important for a consideration of promoting employability and adaptability. These concepts are also aligned with the sociocultural project. That is, what is afforded by social institutions (i.e. educational institutions, workplaces), in the form of the intended and enacted curriculum, on the one hand, and how students come to experience, construe and construct what is afforded them on the other (Billett, 2006). Indeed, this duality presses for a consideration not only of what is afforded students, but how they come to learn through and from them.

In the context of higher educational reforms such as those associated with enhancing graduate employability, there is a risk that the focus will be on institutional arrangements as vehicles of reform. Instead, it is important that students' learning is privileged and considered on its own terms and precepts, not as a taken-for-granted outcome of the implementation of educational experiences. So, to briefly elaborate these differences:

Work-integrated education – comprises deliberate organisation, provision, and integration of experiences from which particular kinds of learning are intended and includes efforts by educators to augment those experiences – institutional facts (Searle 1995). It encompasses much of the intended and enacted curriculum and pedagogic practices supporting students' learning and deliberate attempts to integrate experiences in work and through educational programs.

Work-integrated learning – is personal processes of change (i.e., learning) through experiencing (i.e., construal and construction of experiences), which comprises the 'experienced curriculum', including reconciling experiences across education and workplace settings – personal facts.

These distinctions have implications for key concepts for educational and learning, and here, for the development of employability. In Table 1, these differences are presented in terms of readiness, curriculum, integration, intentions, outcomes, and mediation or means. For each of these concepts there are distinct differences in their meaning for WIL and WIE.

Table 1. *Distinctions in Meaning of Key Concepts Across WIL and WIE*

Concept	Meaning within work-integrated learning	Meaning within work-integrated education
Readiness	The level and kind of individuals' knowledge that mediates how they engage with experiences and learn from them	The awareness, understanding, and capacities that educators and employers have to provide effective learning experiences for students
Curriculum	Something that is experienced by the learner dependent upon their earlier experiences and what they know, can do, and value	Something to be identified, planned, organised, enacted, and evaluated to achieve specific kinds of purposes
Integration	Individuals' integration of experience arises through their reconciliation	The provision of experiences in both kinds of settings and deliberate attempts to integrate those experiences
Intentions	To achieve personal goals in completing courses and programs, graduating, and securing employment and progression	To achieve the stated educational outcomes of the program and to meet occupational requirements and professional registration
Outcomes	Developing the kinds of capacities required for effective occupational practice and sustained employability in chosen occupation	Successful graduations and graduate placements
Mediational means	Individuals' ways of knowing; means construing and constructing knowledge based upon what they know, can do, and value: their readiness	The provision of experiences and augmentation of those experiences through teaching and other pedagogic means

From Table 1, WIL and WIE can both be seen as salient concepts. Both are important for considering how employability might be generated, the role of adaptability and considerations of educational experiences, and how they might be enacted (i.e., intended and enacted curriculum). Table 1 also emphasises perhaps the most important concept, curriculum – the experienced curriculum (i.e., how students construe and construct knowledge from what they experience). For instance, the organisation, sequencing, and enactment of student experiences in and through both higher education and workplace settings stand as key educational considerations for WIL, on the one hand. Yet, on the other hand, understanding of the time-jealous students, who engage in and mediate what these experiences provide, is central to a consideration of WIE. All this leads now to a consideration of how, together, these two concepts can be used to enhance securing graduate employability. Consistent with what has been proposed above, there is a need to consider how the provision of educational experiences can be organised and enacted, and then engaged with effectively by students.

Aligning work-integrated education to promote employability through work-integrated learning

As a means of capturing how to progress with WIE to promote employability through WIL, three concepts foreshadowed earlier are used. These concepts are *Foundations of occupational practice*, *Manifestations of occupational practice*, and *Adaptations to practice*. The foundations of practice comprise the canonical knowledge of the occupations that students are required to learn: the canonical conceptual, procedural, and dispositional knowledge required to practise the occupation.

As noted, these are the capacities usually captured in occupational standards, professional requirements, and national curricula. The canonical concepts are those required to understand, form goals, decide amongst actions, and know how to proceed in an occupational practice. The canonical procedures are those that are required to achieve the occupational goals, comprising both specific procedural skills and strategic capacities. The canonical dispositions are those values and dispositions that are central to the occupation. All of these are elaborated elsewhere (Billett, Harteis, & Gruber 2018). The manifestations of practice comprise the situationally shaped sets of understandings, practices, and values of an occupational practice being enacted in a specific work setting. These considerations acknowledge that versions of canonical knowledge will likely be required to meet the occupational performance requirements in different work settings, and for situationally derived purposes. The work of nurses will, for instance, differ across wards in a major critical care hospital, vary from the work of those in small regional hospitals or aged-care facilities, and be different again for nurses who work in remote communities, mine sites, or in military activities. It is these manifestations that will comprise versions of the concepts, procedures, and dispositions. However, although these foundations and manifestations exist as institutional facts (i.e., generated by the social world; Searle 1995), the adaptations to practice are something engaged with, constructed, and conducted by individuals (i.e., personal facts). Hence, beyond addressing both the canonical and the situational educational requirements, there is a need also to focus on personal attributes and capacities associated with adaptability as defined above, and as emphasised within this sociocultural project. Of course, development of adaptability needs to be an element of the intended and enacted curriculum as well as a quality generated by students' own engagement. So, as a way of progressing, in the following sections consideration is given to how foundational knowledge, as variations manifested in a specific set of work requirements and this kind of adaptation, can best be realised through WIE through consideration of curriculum, pedagogic, and personal practices.

Curriculum practices

The educational worth of engaging students in practicum or workplace experiences is in directly experiencing and construing authentic instances of the occupational practice being enacted and in their construction of knowledge (Billett, 2009b). It is now almost commonplace to have workplace experiences as an element of higher education programs, variously referred to as practicums, clinical experiences, or work experiences. These experiences typically involve students spending time in workplaces and, by degree, engaging in activities associated with their field of study. What they experience in these placements comprises a manifestation of practice: how the occupation is practised and how knowledge is utilised in a specific work practice or workplace setting. Hence, students will engage in a version or variation of how occupational knowledge is being used. Therefore, educational processes are required to provide students with opportunities to understand the bases of those variations; that is, the different means of achieving particular goals of those workplaces and the kinds of values inherent in achieving those goals. Moreover, the enactment of skilled activity in undertaking tasks, even in the same environment, inherently has variable elements associated with it.

... all forms of skill expertly carried out possess an outstanding characteristic of rapid adaptation
... so what is called the same operation is now done in one way and now in another, but each way is as we say "fitted to the occasion." (Scribner, 1992, p. 105)

The salience of this proposition is that students need to understand that (a) there are variations in the manifestation of occupational practice, (b) there are often situationally specific reasons for such

variations given the activities of the workplace, and (c) these goals and processes offer instances of manifestations of practice. Hence, the provision of these experiences in the workplace and educational setting can make accessible to learners (i.e., students) something of the array of possibilities that they might encounter upon graduation, when first employed (i.e., a specific manifestation of practice). This provides a conceptual and procedural platform for students to accommodate variation of the canonical occupational requirements (foundations of practice), and to recognise that it is to these kinds of circumstances they need to adapt (adaptation to practice). So, these circumstances also help generate grounded understandings, procedures, and dispositions of what constitutes the foundational or canonical knowledge. This is because it is only in specific circumstances that students come to encounter the manifestation of occupation in action, and so their construction of canonical occupational knowledge in and through work placement will arise from how they reconcile those experiences (adaptation to practice) provided through their higher education program.

It is, therefore, important to acknowledge that when students access sets of work experiences, they are engaging with one particular variation (i.e., manifestation of practice). Consequently, the process of developing canonical conceptions, procedures, and dispositions inevitably progresses from the specific and concrete to the general and abstract (Scribner, 1992). Yet, conventional thinking about education is that it occurs the other way around. Indeed, the organisation of educational experiences (i.e., enacted curriculum) is often premised upon the basis of students only engaging in work experiences once they develop the foundational knowledge of the occupation. So, there is a need for educational processes to accommodate and support this adaptation. Scribner (1992, p. 105) suggests that such adaptation proceeds by the "assimilation of specific knowledge about the *objects* and *symbols* the setting affords, and the *actions* the work tasks require." This array of situational contributions, including clues and cues, is important for cognition. As Donald (1991) reminds us, human progress has not come just from having a larger brain than other species, but from an ability to represent our experiences cognitively, and these representative apparatuses are developed through human experience, and themselves assist in making sense of what is experienced (Donald, 1991). Yet, if the specific purposes, procedures, and approaches adopted in these workplaces can be understood, the bases for adaptability are also enhanced. That is, these variations open up repertoires of goals, procedures, and approaches that take students beyond what they might take from initial or just one set of experiences.

All this suggests the importance of the curriculum arrangements (i.e., pathways and kinds of experiences) allowing students to have at least one, or preferably multiple experiences of work practices, even vicariously, and then having the opportunity to share, compare, and contrast these experiences with peers. Such processes can extend manifestations of practice to foundations of practice, and in doing so can generate adaptations of practice. Given the difficulties of accessing workplaces and practice settings, and for optimum periods of time, not all the experiences will be direct. However, through processes of sharing and comparing, vicariously, a range of experiences can be accessed by students (Cardell & Bialocerkowski, 2019; Williams et al., 2019). Hence, the 'intended' curriculum will need to include students accessing these experiences, and then to offer educational processes that can assist students in understanding the particular requirements of the places in which they work (i.e., manifestations) and from these, identifying or teasing out what is common across the practice of the occupation (i.e., the foundations or canonical occupational knowledge). In terms of the design of WIE, a key issue is: at what point or stage in their programme of study do students engage in placements or practicums and then what arrangements are planned for sharing and comparing (Cooper et al., 2010)? This is a central curriculum question about the provision and ordering of experiences (Marsh, 2004) and goes back to the word's original meaning – the pathway to follow, the track to progress along. Often, the placement experiences are sequenced

after students have learnt some foundational knowledge from their university-based experiences, so that they have the capacity to apply what they have learnt in the work situation (i.e., a level of readiness to engage in work activities). However, in other circumstances, the engagement in authentic work activities commences simultaneously with the course and are a feature across the course, with students engaging on a regular basis in work placements. There are also circumstances in which students are immersed in the occupational practice at the commencement of their enrolment, and then attend classes and undertake tasks organised by the university. So, there are various models of structuring the experiences that comprise a higher education program and at what point work placements are provided and for what purpose (Cooper et al., 2010).

Another important consideration is how the work placement experiences are augmented; that is, what kinds of experiences are organised prior to students going onto placements, during placement, and then on the completion of those experiences. There are clear benefits in preparing students for those experiences; then, as elaborated across a range of projects, augmenting those experiences once students have completed them offers a range of educational benefits (Billett, 2009b). Once students have had these kinds of experiences, they have basis for reflections on, and comparing and sharing them. As noted, there is much to suggest that these post-practicum interventions are helpful for extending and augmenting the students' experience, on its own terms through feedback (Noble et al., 2019), but also through allowing them to engage with others so that collectively, learning comes from a range of settings (Cardell & Bialocerkowski, 2019) and workplace requirements can be shared, compared, and contrasted (Williams et al., 2019). However, this cannot happen unless it is structured into the program of study and effectively supported and facilitated by higher education teachers (Rogers et al., 2019). A specific goal here is to engage students collectively in identifying what constitutes the occupational canonical knowledge (i.e., the conceptual, procedural, and dispositional capacities required by all those who practice; Levett-Jones, Courtney-Pratt, and Govind 2019) and the particular qualities or variations of that knowledge that are required for the particular work setting or some form of specialization (Williams et al. 2019). Developing these kinds of understandings can support adaptability, because they provide bases for utilising and drawing upon canonical (foundational) concepts in responding to situational requirements (adapting to practice).

So, as is discussed in the next section, consideration needs to be given to what pedagogic practices can assist the development of foundational practices, such as informed principles. Other sets of goals, such as addressing the need to adapt quickly and effectively (adaptability in practice), for example for paramedics, police, emergency services, and military, are also required to be addressed pedagogically.

Pedagogic practices

When appraising what kinds of pedagogic practices might support the development of students' adaptability in practice that will be required to sustain employability, it is worthwhile considering some broad notions about how such practices might progress. As noted, a key consideration for adaptability is guiding and pressing students into the kinds of thinking and acting required to secure that outcome. Adaptability cannot be easily taught; teachers can only provide the experiences that can promote it and then engage students in them (Ericsson & Lehmann, 1996). So, there is a central consideration here about learning, rather than teaching. For instance, discovery approaches to developing adaptability in occupational preparation can be more effective than direct teaching (Stevenson, 1991). Positioning students as active learners, rather than as more passive recipients of knowledge, is likely to yield better outcomes in terms of adaptability. For instance, it was found that theory classes were more likely to be teacher centred (Stevenson & McKavanagh, 1991), wherein students focussed on engaging with and following spoken word and printed text. That engagement

leads to the development of procedural knowledge (how to achieve goals) and intellectual skills, such as evaluation and critical appraisal, but a lesser emphasis on active engagement. In contrast, it was noted that practical classes were characterised by a greater diversity of activity: They were more centred on individuals or small groups of students interacting with the teacher and with each other. The two approaches to instruction appeared to engage students in different modes of thinking and acting. The latter – what was occurring in practical classes – is the kind of approach that is likely to support the development of capacities required for being adaptable. It was also noted that the environment of the practical classes afforded equipment and other artefacts that provided premises for supporting the kinds of thinking and acting required for that cognition. So, aligned with providing these kinds of activities, teachers provide and engage students in tasks that promote higher order thinking. Certainly, the locus of thinking is premised on interactions between learners and the physical and social situations in which they act. So, pedagogic considerations are not just about identifying and using teaching strategies in developing adaptability in practice.

When developing adaptability within the domain of occupational knowledge, engaging students in problem-solving tasks that press them into engaging with and utilising that knowledge seems helpful. Through responding to problem situations, scenarios, or even authentic work activities, the kind of learning that is generated is potentially different from that which is learnt through direct teaching or presentations (Prosser et al., 2003). A key concern here is for students, not just the teacher, to be engaged in the processes of thinking and acting when responding to problems, scenarios, challenges, projects, et cetera. That is, the students are needing to actively engage with the knowledge, appraise its importance, worth, and applicability, and then have the opportunity to articulate and have others share their respective approaches and insights. Students' creation of visual narratives has been proposed as a way of achieving these outcomes (Bennett, 2016; Newton & Butler, 2019). The selection of instructional approaches is important but needs to commence with student readiness (Ausubel & Novak, 1978). When engaging with new activities, particularly demanding ones, students might encounter overloads and unhelpful dissonance, and this can extend to how they identify with their preferred occupation (Jackson, 2019). Here is where guidance might be provided in the form of assisting students by breaking down the tasks or problem into a series of sub-elements or sub-goals to assist them work through engaging and responding to these tasks (Royer, Mestre, & Dufresne, 2005). Yet, because these activities are effortful and demanding, identifying and using tasks that engage students' interest and press them into effortful higher order thinking and acting seems important.

This is not to say that the teachers' role is diminished: rather, there is a change in focus from a reliance on didactic teaching, to assisting students in accessing the kinds of knowledge that are not easily experienced and constructed (i.e., conceptual and symbolic knowledge). It might be helpful to use instructional strategies such as stories, analogies, narratives, explanations, and illustrations as means to make accessible to learners, knowledge that they cannot directly experience themselves (Bennett, 2016; Cardell & Bialocerkowski, 2019). Sometimes, these forms of conceptual and symbolic knowledge are particularly important because they can provide a basis for adapting knowledge from specific circumstances and situations to others. Another basis for adaptability that pedagogic practices can support is assisting students to develop informed principles and practices; that is, principles of practice that can be used and adapted to specific work requirements and situations. The use of these dates from Plato's time (Lodge, 1947) and exists in a wide range of occupations including medicine (Sinclair, 1997), nursing (Cook-Gumperez & Hanna, 1997), law, through to occupations where constant adaptation is essential, such as designing clothes (Caruso et al., 2019) or buildings, or in construction and engineering. They offer bases for being able to understand and adapt. In cooking, for instance, the size and thickness of cuts of vegetables and meat determine how quickly they cook. For example, many Asian cuisines evolved from needing to cook

food quickly, not requiring too much fuel to do so. Hence, the use of woks, and vegetables cut finely. Similarly, with curries from India, the combination of spices performs a number of purposes – providing aroma and flavour, preserving, and aiding digestion. Yet, the combination of spices and the medium through which they are cooked (e.g., oil, ghee, mustard seed, palm oil) are linked to the region from which the dish originated. Hence, the aromatic, preservative, and aid to digestion combination represents what is available in that area or the established preference for that set of spices and herbs. Similarly, with something such as clothing design or architecture, there are sets of informed principles that allow the design of garments and of buildings to be based upon sets of core principles. These have developed over time and are informed by utility in practice, and explanatory power of concepts (i.e., their ability to explain). Once these kind of principles and practices are understood they can be adapted to circumstances other than those in which they were initially learnt (i.e., adaptations to practice).

As indicated in reference to the curriculum considerations, opportunities for students to share, compare, and contrast their experiences, and identify how the occupation is practised in the particular circumstances and why that is the case, can be used to provide strong foundations for adaptable practice (Forde & Meadows, 2011). For instance, the range and kind of tasks that nurses do in major teaching hospitals, as opposed to regional healthcare centres or remote community hospitals, allow them to understand how the use of foundational occupational knowledge can differ across circumstances of practice (Newton & Butler, 2019). As noted above, one way this can occur in WIE is in the post-practicum period. It is in those circumstances that students can vicariously experience a range of ways in which the occupation is practised (Billett et al., 2019).

So, there are strategies educators can use to promote adaptability (adaptation to practice): prior to students engaging in their practicums, during them, and then afterwards. Prior to students engaging in work placements, they might be encouraged to understand more about the workplace or work setting in which their placement will occur (Newton et al., 2011), what happens there, and how this might be different from other instances of occupational practice. This then gives students some framing so that when they have that experience, they are in some ways ready, but also have organised cognitive structures to make the most of what they encounter and how they construe and construct knowledge from those encounters. The key qualities here are guiding students and preparing them, initiating and engaging them in thinking and acting in ways that are focused and likely to be generative of the kinds of knowledge they need to learn, because the experiences they are participating in and the thinking and acting processes they are adopting are becoming more akin to those of a practitioner than a student.

These pedagogic processes can be helpful in developing the capacities that permit the development of adaptable occupational knowledge that is aligned with achieving the goals of employability. However, as foreshadowed, the key focus and bases for selecting and enacting experiences are premised on the kinds of thinking and acting that are not only utilizing students' knowledge, but are also generative of it in ways that promote the prospect of it being adapted to other situations and circumstances. Yet, it is acknowledged that these processes of thinking are person dependent and able to be exercised equally. Individuals are more or less capable of critical or creative thinking and different situations are more or less conducive to learning and thinking (Greeno, 1989). In this way, just as modalities of teaching might change to accommodate learner readiness, here guidance, likewise, needs to be appropriate for students' level of readiness. Yet, sitting within this is the importance of student initiation, effortful engagement, and critical appraisal of what is being construed and constructed; that is, ultimately, this learning is mediated by individuals' personal practices and epistemologies. The sociocultural perspective presses for a consideration not only of what is afforded individuals and how they come to engage with them, but also the person particular

ways in which individuals reconcile those experiences. Hence, it is necessary to consider personal practices and epistemologies.

Personal practices and epistemologies

With any project of education, there are always intentions for what students should learn, and curriculum and pedagogic processes directed towards those ends. However, ultimately, the degree by which these intentions are fulfilled, even when there is very strong alignment between those intentions and what is enacted, depends on the personal practices, subjectivities, and epistemologies of individuals who engage with them (Billett, 2015; Jackson, 2016). There can be no certainty or guarantees that what is intended to be learnt, will indeed be learnt. This uncertainty is a product of, on the one hand, the degree to which it is experienced by the learner and how they come to make sense of that experience: the process of experiencing. That process is premised upon their personal epistemologies: what individuals know, can do, and value. This includes their readiness to progress. These epistemologies are important for both WIL and WIE (Billett, 2015). For WIL, they are central to students' learning and adaptability (i.e., problem-solving and innovation) and their reconciliation of what they experience in workplaces with the content and intents of their courses. That is, they are central to the process of cognition, of which learning is a part. For WIE, they are central to its enactment and experiencing, as much of this must be mediated by students themselves, not their teachers. A key concern is that higher education students are becoming increasingly time jealous as the demands upon their time for study, work experience, paid employment, and pursuing social and cultural interests are perhaps more intense now than in earlier times (Billett & Sweet, 2015). Whilst it is often stated that students are time poor (i.e., they lack time), perhaps it is more appropriate to suggest that these students are time precious or time jealous. That is, given that they have so many demands upon their time and that these demands overlap, they will make strategic decisions about how they direct their time, energy, and efforts (Billett, 2015). Across a range of projects on higher education students' practice-based learning, it was found that students' engagement was shaped by their time jealousy (Billett, 2011; Billett et al., 2019). Time jealousy is a key determinant of the basis by which practicum experiences can be fully embraced, of students' consideration and appraisal of those experiences, and also of how and what they want to do in terms of sharing, comparing, and otherwise engaging with peers.

Yet, it is important here to include a consideration of teachers' personal epistemologies as these play a role in how they engage, prioritise, and select experiences and enact WIE and how they come to integrate the workplace experience within their own courses. It is also important to remember that academics have also become time jealous. Certainly, the evidence suggests that tertiary educators need to find ways of supporting the development of students to be proactive in learning and managing their time jealousy as learners. An important consideration is providing experiences that students judge to be relevant, worthwhile, and engaging. For instance, in working with medical students, the use of activities seems essential for their progression, combined with opportunities to engage with peers in small groups to discuss their practicums. Harrison et al., (2019) utilised these processes in weekly meetings with students, providing them with an activity that they had to attend for that course progression, but also providing opportunities for them to engage in peer discussions that were relatively unsupervised. Against expectations, these sessions were well attended, and the engagement was perceived to be at a very high level. In a separate initiative, Harrison et al. (2019) also provided clinical cases that students had to respond to through a web-based provision. Interestingly, although there was a specific requirement to address at least one case, many of the medical students commented on and evaluated more than the minimum. This indicated that they found these kinds of activities important. The sharing of experiences by medical students was facilitated through weekly meetings that allowed students to engage with peers who

were going through a range of clinical rotations (i.e., placements in different clinical areas). The students found this particularly helpful because they were assessed in their knowledge of all clinical areas, although their experiences across these different areas straddle an entire year. Here, demonstrably, there are prospects for critical and constructive engagement through such activities and the development of manifestations of practice, foundations of practice, and adaptation to practice. However, all of this is only likely to occur when students engage in the effortful processes of learning through such activities. One way associated with this engagement is to have activities that capture and articulate the sense of vocation (Dewey, 1916) that students have with their field of study. It seems that when students' subjectivity or sense of self is richly associated with a particular field of study (Jackson, 2016, 2019), they are likely to engage in it effortfully to achieve those outcomes. That is, their sense of self as an emerging occupational practitioner is as much aligned with that sense of vocation.

Educational activities that permit students to hear, see, or engage with different instances of practice and to understand their purposes, processes, and utilities are likely to engender adaptation to practice. Importantly, beyond having experiences such as engaging in problems in the workplace, project work within the university, or post-practicum activities, there needs to be the opportunity for students to share and articulate what was distinct about these experiences and how what they are experiencing was, by degree, a manifestation of highly situated practices (manifestation of practice) or aligned with the canonical knowledge of the occupation (foundations of practice). It is the negotiations between these two that provide the basis for adaptability when faced with novel challenges (adaptation to practice). However, it is possible, as with Harrison et al. (2019), that while these processes promote students' engaging in thinking and acting, it will be important to have their teachers guiding them with well-considered, appropriate, and engaging activities.

In summary

Graduate employability is a key goal for contemporary higher education. That employability is more than securing employment beyond graduation: it also extends to retaining employment through developing occupational capacities in ways that respond effectively to emerging challenges, that assist individuals to seek advancement and/or more broadly use their skills as work circumstances and challenges change, and also, potentially, that assist them to move from one occupation or field to another. Beyond the initial transition from tertiary education to employment (i.e., 'job readiness' or the ability to apply occupational knowledge and skills within specific work circumstances), central to all these concepts of employability is the ability to be adaptable (i.e., adaptation to practice): to possess domain-specific occupational knowledge (i.e., foundations of practice), yet to be able to adapt it to respond to novel challenges and new tasks. Consequently, all of this positions WIE as being able to develop canonical occupational knowledge, with capacities to adapt to situational work requirements (manifestations of practice) and changes that arise within them through possessing broad work-life capacities, including agency; that is, to assist students to engage effectively and critically in WIL. WIE also needs to develop students' habits and practices to engage in continuing learning and innovation in their working life to secure employability. In this way, WIE can realise societal as well as personal outcomes through WIL with the promotion and securing of employability. All of this is illuminated and advanced through sociocultural theorising which emphasises the need to account for the experiences afforded individuals, how they come to engage with them and the relations between what is afforded and how individuals engage (Billett, 2006). It is this kind of theoretical explanation that assists advancing responses to assist students achieve their employability goals.

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