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Taking Professional Practice Seriously: Implications for Deliberate Course Design

David Boud

Introduction

Many universities advertise that their courses prepare students for work. Indeed, the main rationale for courses for the professions is that they contribute to preparing students to become effective practitioners. While the more established professions recognise that there is a transitional period following graduation needed in this process, and indeed structured postgraduate training, newer professions have yet to embrace this feature. For both there is an assumption that whatever additional elements may be needed, the course itself is the main foundation.

There is no shortage of features of courses claimed to prepare students for practice: various kinds of work-integrated learning, placements and practical work, authentic tasks and assessment activities (Cooper, Orrell, & Bowden, 2010). In some cases there are approaches to restructuring the entire curriculum to focus students' attention on the kinds of issues that practitioners deal with and their ways of thinking, for example, problem-based learning. But, can it be reasonably claimed that such approaches recognise the nature of practice, the nature of what it is to engage in deliberate practice and thus prepare students accordingly?

This chapter suggests that many courses are far from exemplars of good educational practice for the professions. This is not primarily because of teaching quality, but because they tend to have a poorly conceptualised view of what it is that their graduates do in their professional practice. They are too often governed by what is involved in teaching within academic disciplines rather than on how learning occurs within professional work. There is a continuing risk that students will be trapped in current knowledge without the capacity to move beyond what they have been taught. And they are often not characterised by a strong sense that courses need to be actively designed and redesigned to produce graduates that will be deliberate professionals.

The approach taken here will be to view professional practice and what is needed to become a deliberate practitioner, through the lens of research on workplace learning and of emerging practice theories. This involves starting with what practitioners do when they practise, and work from this to examine the implications for the courses that precede it. In particular the chapter focuses on what professionals require for learning in practice, one of the key aims of a pedagogy of deliberateness. It suggests that similar considerations apply to what students need to do in order to learn within courses. It starts by thinking about professional

education from a clean slate, with no assumptions about the presence of theory classes, practicum placements, etc., as these are pedagogies that can be considered only when a clear conception of the purpose and overall nature of a curriculum is decided.

The argument used is a conceptual and explicitly normative one. It proposes a new way of looking at the professional curriculum and explores the consequences of taking up a position that challenges some existing assumptions of what a professional course should look like. While it uses some illustrations from existing courses, it proposes a new vision for professional education as the view of curriculum posited here is yet to be manifest beyond a limited number of course units.

The proposed radically practice-oriented approach does not lead to a narrowly instrumental curriculum, but to one that sees practice knowledge as valuable as scientific or technical knowledge. There is, of course, always a risk that a naïve application of the ideas here could trap the curriculum into an outdated version of professional work that was current when their teachers were fully immersed in that practice. However, a practice-based curriculum is not achieved by employing those newly arrived from practice. It is achieved by treating the nature of practice as something that is continually explored and appreciated and the subject of investigation and enactment. Educating the deliberate professional necessarily means enabling them to deal with emerging knowledge and understanding which goes beyond the nature of present practice.

While such an approach may lead to an analysis and conclusions that are in some respects unsurprising, it still provides a profound challenge to what occurs in most courses. In particular, it calls into question assumptions about the individualistic and decontextualised nature of the curriculum, the role of placements, the ways students are assessed and the conditions under which they learn.

The chapter concludes, not with a prescription of what is needed now to redesign the curriculum, but what knowledge is needed to do this, where it might be developed and how it might be applied. It suggests that academics need to become deliberate professionals in their own practice of teaching and learning if they are to contribute to their students becoming deliberate practitioners in the areas to which they aspire.

What then is the starting point in this exploration? The obvious but often neglected one is not to focus on the beliefs of academics or even practitioners about what is needed, but to look at what occurs in work itself and what is involved in being a practitioner. This of course is only a start because it is not a straightforward matter of reproducing the practices of work in the curriculum, but identifying what is needed to prepare students for practice.

A Different Take on Learning 1: Workplace/Situated Learning

Although the history of educational research has been dominated by studies of formal educational institutions and the structured learning that takes place within them, over the past 20 years there has been a rise in studies of learning in workplaces (eg. Billett, 2004). Recently, this has focused on what learning occurs in workplaces without training programs, or competency frameworks (see examples in Billett, Harteis, & Gruber, 2014). This research has been very illuminating. There are many different accounts using different conceptual frameworks, but a considerable level of commonality existed as well. This work demonstrates that considerable learning takes place without the prompts of any educational process or curriculum, or indeed teachers or trainers (Illeris, 2011; Malloch, Cairns, Evans, & O'Connor, 2011). The simple notion revealed is that learning is an intrinsic part of work. Normal work produces challenges that have to be addressed if that work is to be successfully completed. Many of these challenges prompt responses which we can identify as learning, though people engaged in the work describe this as a regular part of their job and feel no need to deploy a discourse of learning to do so.

Little of the learning that takes place in conjunction with work is systematic, structured or even planned. It arises out of the exigencies of work itself and is a response to the everyday challenges the conduct of any activity throws up (Price, Scheeres, & Boud, 2009). While there may be training events or staff development activities as part of employment, these are often small, though sometimes essential parts of the learning needed to do one's job. Unlike in educational institutions, learning activities are not typically initiated by those with responsibility to manage them. Participants themselves recognise what is required and initiate it together with colleagues. They may be prompted in this by managers and supervisors, but contrary to statements embedded in many job descriptions, workplace supervisors tend to have little direct role in facilitating learning (Hughes, 2004).

When participants, new to a given kind of work, encounter it for the first time, they are likely to be peripheral participants (Lave & Wenger, 1991). They observe what others do and take on simple tasks which enable them to start to practise what is expected. They draw on whatever experience they bring with them and whatever assistance they can mobilise in their surroundings. This may be provided by other people in the immediate workplace or elsewhere, in and beyond the organisation, or through accessing non-human resources of various kinds: guidelines, manuals, protocols, etc. As they gain confidence, they take on increasingly demanding tasks and develop expertise little by little until they are accepted as peers who can participate in the normal range of challenges faced by the work group. They judge themselves and are judged by their peers (and sometimes supervisors), on what is an acceptable standard.

Peers have a very strong role to play in learning at work. While learning may not appear in any job description, most people learn to operate successfully through interaction with more experienced co-workers (Rooney et al., 2013). From them, they find out 'how things are done around here' and what counts as doing the job

well. This is not to say that external checking does not occur from time to time, but this checking tends to monitor the work product itself, not what has been learned or how that has occurred.

Nevertheless, despite the pervasiveness of learning through work, not all work is generative of learning and not all work contributes to learning which is characteristic of a given profession or occupation. Some work is dull and repetitive and once learned can be conducted with little continuing challenge. Also, some work tasks, while challenging in themselves, represent a limited subset of the wider range of tasks to be encountered within professional or occupational practice. They are specialised and of restricted applicability outside the immediate context in which they take place. However, some work requires particular knowledge and skills, for example, to ensure safe practices.

A Different Take on Learning 2: Practice Theory

Alongside the growing interest in learning at work has been a focus on the nature of work itself. Research and scholarship has taken a 'practice turn' (Schatzki, 2001) and examines all kinds of activity through the lens of practice. Practice theory places the analysis of practices in context as its central concern, rather than qualities or attributes of people. The adoption of practice theory provides some conceptual tools to assist in identifying features of practice and consider what their implications are for university education.

Practice theories have been found useful in many areas, not least of which are in analysing working and learning. While practice theory is a term that incorporates a number of different orientations from different proponents, mainly of a sociomaterial disposition, there are many shared views about the nature of practice (Hager, Lee, & Reich, 2012). It is these common features that are drawn on below.

Using a practice theoretical lens we can say that learning occurs through participation in practices; learning about a practice is not the same as practising. Practices are bundles of sayings and doings that have existence beyond the particular individuals engaged in them. The ways practitioners speak about what they do and the actions in which they engage are not matters of individual choice but are an intrinsic feature of the practice itself. Practices connect material conditions with people and with work. They cannot be thought of separately from the conditions in which they exist–abstracting a practice from its context is to no longer have a practice.

A practice theory approach, then, takes as its unit of analysis what practices occur and how they hold together through particular social and material arrangements (Hager et al., 2012). The focus is not on what people can do or how they can act, but on how this plays out with others in context. The emphasis is not on the individual and their knowledge, skills or attitudes, but on the practice itself. Practices typically are pre-figured; that is, for any given practice different people are likely to enact it in similar ways faced with similar situations.

Features of practices have been well discussed (e.g. Hager et al., 2012) and typically include the following:

- They are embodied; that is the location of practice is within persons. A practice requires persons who enact it
- There is material mediation. The material conditions are a key influence
- They are relational. Practice occurs in relation to other people as well as things
- They are situated. The context of a practice matters
- They are emergent. That is, they cannot be fully determined in advance of particular circumstances and they change in accordance with them
- They are co-constructed. They are socially constructed in conjunction with others.

If these are characteristics of practices then they provide a challenge for how they are to be learned and the kinds of preparation students need to engage in prior to practising. Some of these are in tension with the typical assumption of classroom-based higher education courses that take a disembodied and decontextualised view of knowledge and may use practices as illustrations of how ideas are applied.

Implications of These Views

What conclusions can we draw from these two perspectives of workplace learning and practice theory? The first is that engagement with work is a necessary part of a curriculum oriented to practice. Learning about work or engaging with knowledge that will be needed is not in itself enough. An important part of developing the expertise needed to operate in the world involves being faced with situations in which something substantive is produced, in circumstances in which there are consequences beyond the artefacts required of being a student. This expertise is not just needed to perform a specific professional task, but also to cope with complex situations.

An important question is what is this work that is to be engaged with? Any kind of activity that may occur in workplaces does not meet our requirements—some of it is routine and repetitive and once simply mastered does not challenge anyone. Work needs to be generative of the understanding required for professional practice. This understanding is normally more complex than the conventional knowledge and skills taught and learned in classrooms. For example, practice typically requires interaction with multiple others who have different or more expertise, not just with academic peer cohorts. It can also involve producing things that people beyond the course have an interest in and are meaningful to them. The typical academic assignment—an essay or a standardised report—often does not fulfil this requirement.

Although engagement in appropriate work in suitable contexts should necessarily lead to learning, not all work is equally conducive to learning. The fact that different kinds of work are conducive to different kinds of learning implies that not only a careful selection of practice sites is needed, but that there be distinct ways of analysing what is available within a site. This leads to a much better appreciation of

what kinds of work in what kinds of conditions produce the kinds of learning needed to become deliberate professionals. At present we have barely the language to begin to consider this problem.

The second conclusion builds on the observation that it is rarely as common as is typically assumed that work or learning at work is immediately overseen by someone with direct responsibility for that work. Overall management of work tasks may occur, but day-to-day supervision is diminished in modern organisations. This places considerable responsibility on the learner-workers themselves to recognise what needs to be done and how to go about doing it. Supervising oversight typically tends to be of what is produced, not what the learning processes were to be able to produce it. This is unlike much of higher education where surveillance by tutors and assessors is pervasive. People other than students (typically teachers or assessors) usually make decisions about what is to be learned, how it is to be learned and how it will be judged. This may not be the best preparation for the autonomous and co-dependent work that students face on graduation.

This raises the issue of how day-to-day learning is to be facilitated given that neither workplace supervisors, nor indeed teachers themselves are continually present or are in a position to intervene at strategic moments. This is the perpetual challenge of student learning in placements. The clear implication of this observation is that this problem has to be resolved in new ways, which probably demands more deliberate learning by students as it is only the learner who is present throughout and who has continuing responsibility for their own learning.

The third conclusion is that work occurs with others and participants learn with others. Students therefore need considerable facility in working collaboratively. They need to be able to communicate effectively with their peers in work. Their courses need to provide opportunities for this to occur. This is unlikely to happen through the injection of a few group tasks or group assessments added to the curriculum. Working collaboratively involves more than working with a limited group of academic peers or with a single work group on a placement. A pedagogic culture needs to be established that sees working together as part of everyday work and study through higher levels of cooperation during study programs and through more diverse forms of relationships through working phases of courses.

There is a more fundamental challenge in higher education as a whole though, as its conventional assumptions about learning are deeply rooted in a conception of education that is in direct contrast to these observations of learning outside the academy. An ‘educational’ way of viewing the world pervades our present representations of curriculum. In this view, only learning of and by the individual is privileged and recorded. While teaching may occur in groups, these groups are seen merely as collections of individuals as, overwhelmingly, individual marks are given for work undertaken by students. The implication of this is that collaboration may be seen as suspect and can easily turn into ‘cheating’. The generally unquestioned individualistic ethos of educational institutions inhibits the dispositions of teachers and of students needed for future practice. In Sfard’s (1998) terminology,

educational institutions have an acquisition-oriented view of learning—knowledge is to be acquired and transferred—rather than the participation-oriented view of work—learning occurs through participating in activity. There are limits then to how much of a practice approach can be translated into courses within the very ethos of an academic institution. Nevertheless, much can be done even accepting this constraint. The need for the ultimate acquisition of a qualification is not disputed here, but this does not imply that the process of reaching this end point needs to be dominated throughout by an acquisition metaphor.

Curriculum Design for Practice

So, what does this analysis of the nature of learning at work and the notion of practice suggest about higher education curricula and how they can be organised. The implications run far deeper than the choice of tasks or placements, to what features courses emphasise and what outcomes they seek to develop.

What is suggested here is that the starting point for a practice-focused education is recognition that education leads to practice. That is, whatever is learned, in whatever form, to whatever level, is envisaged as utilised in practices. It is only in the world of quiz shows and knowledge tests that what is learned is manifest in a decontextualised, isolated manner. Any substantive activity is some kind of practice, whether it be a work practice, a social practice or a community practice. It involves doing something from knowledge and with knowledge to have effects outside the minds of the persons involved. In other words, knowledge is manifest in social practices. For example, a report is never seen just as an assignment report, but is constructed as a contextualised piece of writing for a particular meaningful purpose to an audience (other than the assessor) that can be imagined being undertaken by a practitioner.

This observation has implications for all courses, not just those designed to lead to a particular vocation or profession. It sees knowledge as only having meaning when we can do something with it beyond the protected world of the course. If the only things we can do exist solely in educational institutions then that knowledge is of limited value and needs special justification.

Any curriculum needs a view of what kind of practices it prepares students for, and therefore the curriculum needs to build on investigations of what is known about what professionals currently do. This information acts as a first approximation to what the curriculum will continue to do. However, there are two major challenges. Firstly, these practices need to be identified and analysed in order to determine how they should influence the curriculum. Secondly, there is a more fundamental challenge in that present practices do not represent the range of practices that students will eventually have to confront in the near and distant future. It involves determining what courses need to do in order to prepare for practices which are currently unknowable and not susceptible to our present tools; that is, what Barnett refers to as a world of supercomplexity (Barnett, 2000).

Analysis of Practice

If courses are to take the nature of professional practice into account, then an understanding of what is involved in such practice is required. Surprisingly, there is a lot less information about this than is commonly assumed. When problem-based learningin medicine was introduced, for example, investigations had to be undertaken to discover the common and pervasive problems that doctors actually encountered in their practice (MacDonald, 1997).

There are a number of different approaches used to understand professional work. The most common pragmatic approach in vocational occupations and the professions is the establishment of a competency framework. This is typically undertaken by a professional body or other external agency and applied to all educational institutions that seek professional recognition of the qualification offered. Such an approach is widespread for major professions, such as nursing, medicine, the applied health professions, engineering and accountancy. Each has in their own jurisdiction their own way of developing a profession-specific framework. Commonly, these are developed by groups of experienced practitioners identifying the main competencies needed across their professional area and representing them in the form of characteristics or attributes of graduates or registered members. Frequently, they also apply to post-registration development and are used for continuing professional education as well as for undergraduate degrees. They have the considerable benefit of providing an explicit set of expectations of what is required to gain professional status at any level, but there are many difficulties with such frameworks. These include having a standard set of elements across a diverse profession which may have many sub-specialities with their own particular competencies; of ensuring that the competencies are really necessary for all members of the profession rather than just desired rites of passage which mark membership; and keeping them refreshed when doing so is expensive and time consuming (e.g. Boud & Hager, 2012). Revisions of such frameworks are major undertakings, require many years of development and are resource intensive because they involve extensive consultation with members. Necessarily, they lag behind current professional practice of new graduates and they are only accurate in a relatively unchanging profession.

A different approach has been used in problem-based learning curricula. In problem-based learning, the entire curriculum is structured around sets of problems that represent widespread and common situations faced by actual practitioners (MacDonald, 1997). These problems are identified by research studies of practice and embedded in scenarios that are carefully structured to provide the trigger for each episode of learning and what subject matter needs to be deployed to address them. Conventional teaching and formal introduction of subject matter is removed completely in the fullest adoption of problem-based learning.

These two approaches are in contrast to each other. The first focuses on the identification of characteristics of individual practitioners and what knowledge and skills are required of them. The second focuses on the nature of professional

problems and what they demand of the practitioner. Unfortunately, neither focuses on the nature of practice itself. What is privileged is either the person or the problem. What might an analysis of practice involve?

While there are few examples available to be cited in undergraduate curricula, an indication of what could be involved is given by an exercise undertaken in the context of continuing professional learning. The issue being addressed was to determine how experienced professionals learned in the context of everyday practice. To investigate this, a study was conducted with groups of civil engineers involved in construction projects (Rooney et al., 2013). They were asked to identify common practices they engaged in and how they operated. Interviews were undertaken and observations made. While the particularities of their practices are not relevant to the argument here, as they are mainly of interest within that profession, it was possible to identify and analyse a limited number of practices that were all accepted as characteristic of construction engineers. They included such things as site walks (with multiple and varied participants) and end of month project reviews. Each of these encompassed the features of practices mentioned above: they were highly contextualised, embodied, undertaken with others, etc. While they varied considerably from job to job (the site 'walk' sometimes involved motor vehicles or even aircraft to do a site inspection), there were characteristic features shared by them all and recognised by other engineers as a characteristic practice. When we subsequently looked at what occurred in the undergraduate curriculum, little trace of these characteristic practices could be discerned.

Studies of practices in the area of any given course would be able to identify and give an account of such practices and what Stephen Kemmis identifies as their signature practice architectures (Kemmis et al., 2013). These are perhaps the practice equivalents of the familiar idea of signature pedagogies in the professions as identified by Lee Shulman (2005). What would be different in this kind of characterisation compared with the competencies and problems of other analyses is that they would focus on the nexus of activity that comprise a practice, not just on cognitive or psychomotor features of the persons involved or the problems of the sites in which the practice occurs. There may still be the need for some important aspects of these in the curriculum, after all, there is particular knowledge involved in, for example, building bridges or pouring concrete that students need to be prepared for.

Analysis of practice is not something that can be undertaken once and for all in preparing for the design of the course. The identification and appreciation of practices needs to be a continuing feature of courses themselves. When new practices are encountered, professionals need to be able to understand and operate within them. While common and pervasive practices can be identified and recognised in the way the curriculum is structured, practices and the learning associated with them is always emergent (Johnsson & Boud, 2010). Inquiry into practices then becomes an important part of the curriculum. This parallels the existing shift in other undergraduate courses in which student inquiry becomes a foundational learning practice through which students become knowledge

producers as well as knowledge consumers (Brew, 2013; Neary & Winn, 2009). If, as is universally accepted now, graduates need to be able to continue their learning throughout their working lives, they need the tools to understand practices as well as professional knowledge.

Creation and Selection of Environments for Learning

Unlike knowledge or particular skills with which educators are familiar, practices are not susceptible to being disaggregated and taught in the same way. The highly situated nature of practice means that it needs to be learned *in situ*—the fragmentation of practice into separate elements renders it something quite different, which cannot be reassembled into a cohesive practice. If practices then need to be learned in the context of practice as a whole, then environments need to be found or created in which this can occur. Students can be introduced to these ideas through familiar pedagogies such as workshops and simulations that can put some aspects of practice together, but these can only be the initial step in the embodied understanding of practice.

Finding Environments for Learning

While the analysis of practice proposed above is a point of entry into finding suitable conditions for students, there are many practical difficulties, some of which are also discussed in this book by Cooper and Orrell (2016) on the challenges of university-community partnerships. At present, most of the potential placement sites are unlikely to be controlled or significantly influenced by the educational institution. The priority of placement sites is always the conduct of substantive work, not the provision of learning opportunities; given this, can sufficient opportunities be found for student participation in them? Even if enough placements can be found, will they allow students to participate in specific practices in a meaningful way? These challenges lead to the conclusion that in many or most professional areas sufficient meaningful sites for practice in external organisations are not likely given existing relationships between academe and industry.

There are two solutions to this. Firstly, if partnerships can be formed between educational and work organisations in which both can benefit then conditions for learning as suggested above may be able to be met. The second solution is already in operation in professions where there are fewer large employers. It is illustrated in the use of community law centres and health clinics for therapies that are organised outside major health services (for example, osteopathy and acupuncture). Universities set up their own work organisations through which students engage in authentic practice with a higher degree of supervision than that found in external workplaces: law students give legal advice to real clients and trainee acupuncturists treat real patients. These work well in professions with an emphasis on individual client-professional relations dealing with issues that are not seen to be as direct competition in the marketplace (e.g. legal advice or treatment for low income groups). Higher education institutions provide a public service while providing their students with practice in real contexts.

It is unlikely that a scaling up of such solutions to accommodate massive numbers of pre-professional students would be possible: among other things, it would involve a major change in higher education institutions to become professional service providers. However, if a practice-orientation of the curriculum were to be embraced more thoroughly, then new solutions are needed. While incentives would still need to be found for organisations to offer themselves as placement sites, research on learning-conducive work provides some clues for the kinds of organisation that would need to be sought for collaboration.

Skule and his associate (Skule, 2004; Skule & Reichborn, 2002) identified a number of circumstances of work that promoted learning opportunities in Norwegian organisations. To focus on what we are seeking for practice development, these include: a high degree of exposure to demands from customers, management, colleagues and owners; a high degree of exposure to changes in technology, organisation and work methods; good opportunities for feedback from work, support and encouragement for learning from management; and a high probability that proficiency will be rewarded through interesting tasks. They concluded:

> All things being equal, neither gender, education, the competitive situation, size of company nor type of industry are particularly significant when it comes to the opportunity to learn through work. It is the various properties of work—what we call learning conditions—that are most important in explaining the differences in the opportunity to learn through work. (Skule & Reichborn, 2002, p. 10)

In a rather different study of successful apprenticeships, Fuller and Unwin (Fuller & Unwin, 2004; Unwin & Fuller, 2003) categorise organisational circumstances as providing greater or lesser opportunities for learning—what they termed expansive participation in work. These included inter alia valuing of skills, encouragement of communication, opportunities to learn new work, flexible job design and fostering of innovation.

Creating Environments for Learning

While finding practice in a learning-conducive work organisation or establishing one's own work organisation is probably the most direct way of enabling students to practise, there is limited scope within educational institutions to create practice environments. While there will be inevitable losses of authenticity, sometimes the ability to control the environment educationally can partly offset this. The most common way of creating an environment for learning that captures some important aspects of practice is through simulation.

Simulation carries a great diversity of meaning and can range from a close approximation of practice, albeit without some of the dire consequences of practising on real people (for example, in a medical simulation, the 'patient' cannot die) to the simulation of distinct aspects of practice to the exclusion of others (e.g.

the role-play of the interaction of an interview without any props). It cannot easily be said that anyone of these involves more authentic practice as each simulation seeks to focus on some important dimensions of practice: the technical intervention, the interpersonal dynamic, the unfolding of a problem over time, and so on (Hopwood, Rooney, Boud, & Kelly, 2016). This is clearly an improvement on learning about practice as fragmented elements as it puts some of them together, but embedded practice is still needed if an unrealistic view of the world of the practitioner is not to be promulgated.

The simulation can be characterised as an intermediate practice: involving neither the full engagement in a situation 'for real', nor the cool context of a conventional classroom (Boud & Rooney, 2015). While it is of course a learning practice in its own right, it also acts as a bridge between the textbook and the workplace. It enables students to gain experience in situations they would not be allowed to access in a workplace (often for reasons of safety or duty of care) and to work with scenarios that unfold at such a pace in a work context that someone with the capacity of a novice cannot hope to appreciate in real time. What simulation lacks are real consequences that might follow actions and the sense of existential challenge confronting all those present. Nevertheless, simulation allows a greater engagement in practice than classroom situations in which the student does not have to embody the practitioner experientially.

No matter whether the environment is selected or created, the choice of the practice settings students are engaged in is vital. To benefit from these and to enable students to learn from these experiences, preparation and debriefing is crucial. Students need to know enough about what they are likely to face and how they can learn in the complexity of practice before they face the challenge, and they also need to equip themselves with resources for monitoring and reflection that will be robust enough to use in situ (Boud, 2009a; Boud & Walker, 1990).

A key consideration then no matter whether an environment is chosen from the world of practice or simulated, is for the environment itself to be quality assured for the purposes of learning. That is, can it provide for students' engagement in desired practices in ways that provide them sufficient opportunity to learn from them? This involves addressing the question of whether a student suitably involved in ways that can be reasonably planned can expect to be sufficiently involved in the practice found in that environment for us to be able to say that he or she has engaged in that practice and all that that entails.

Learner Management

The curriculum from this perspective is viewed as a progressive series of practice situations where the student can move from simpler to more complex aspects of practice through simulations to fully practice-based learning experiences. Other learning activities may of course occur but, as in problem-based learning programs, these are subordinate to the overall practice framework.

What characterises all practice situations and many simulations is the extent to which many decisions about actions and interventions are beyond the influence of the educator. Practices have their own dynamic and are commonly emergent in nature. The management of learning can only be partially influenced by the educator, and the learner necessarily has much greater responsibility for managing and organising their own learning than is the case in conventional courses. This degree of learner management can start over time to approximate what can be found in full practice following graduation. This implies that learning activities need to be scaffolded so that students take on these responsibilities through the promotion of a high degree of self-regulation within the contexts provided. Such an emphasis has a flow-back effect on all parts of the curriculum that precede external practice components.

Students must be positioned to actively manage their learning from the start of the course. The substantial initiatives about improving the first year experience by considering transition pedagogy provide a good foundation for this (Kift, Nelson, & Clarke, 2010). Making students aware of and responsible for their learning is also one of the four characteristics of Trede and McEwen's pedagogy of deliberateness that resonates with positioning students as responsible deliberate learners. However, great caution needs to be exercised in creating course units that are well designed to assist learners gain specific knowledge, appreciate threshold concepts and generally gain an intellectual foundation, independently of a conceptualisation of practice. Designs which achieve that alone are dysfunctional if they do not also equip students to identify what they need to learn, to plan for it themselves and monitor their own achievements. Such learning practices can be greatly enhanced or inhibited by both pedagogy and assessment (Boud, 2009b, 2010).

Assessment

While curricula may be designed around the notion of practice, this framework also has profound implications for student assessment. It would be inappropriate to have assessment activities that were not fully consistent with the aim of inducting students into practice. What then, are the implications for assessment? An earlier account of some of these has been published (Boud, 2009b) and we can point here to major features and to raise an important challenge. In the external world of professional practice, performance is judged principally in terms of what is produced: Is it timely, does it meet quality requirements, are consumers or clients satisfied, and so on? To be consistent with this then, something similar might be expected from students. However, what is produced is not necessarily the product of an individual, nor is it necessarily a tangible product or service in its own right—it may be an input into something else.

The starting point for assessment for practice is to ensure that what is being assessed is capability in the practice, not disaggregated elements of it such as particular knowledge or practical skills. It clearly involves looking to actual products (authentic problems identified and addressed, services provided, products provided for contexts beyond those of educational assessment), but these products must be

ones that can only be generated by learners engaging in the practices identified as necessary in the professional area. If such products can be produced through normal study and research processes that do not require contextualised and embodied engagement with others, then they are not appropriate for this purpose. Assessment in the context of practice, then, will involve students engaging in the practice and producing whatever outcome is authentic for that practice, whether real or surrogate. There are plenty of examples of 'authentic' assessment to be found within individual course units, but far fewer are found across the curriculum in mainstream disciplines, but see, for example, Solomon (2007).

Assessment faces two key challenges in dealing with a practice perspective. Firstly, when using naturalistic environments of practice, we need to ask whether what is produced is unique to that setting. This means that the products will necessarily be varied and not cover all possible domains of practice or knowledge. Secondly, the student may only have had peripheral involvement in the product when he or she is involved with multiple others. How then should that student's contribution be judged vis-a-vis others? Thirdly, even when using a simulated environment, students will have different roles in any given practice and may not be full participants in any given aspect to a sufficient extent. Like all assessment challenges, they can be addressed by focusing clearly on what the outcomes to be judged are and how multiple evidence can be assembled that allows secure judgments to be made. This means that single measures based on simple tasks or unrealistic assumptions about collaboration are unlikely to be effective.

These problems are not insurmountable. However, they do require a different view of what is adequate coverage. In the same way that courses recognise that students cannot possibly deal with all subject areas within existing academic disciplines and therefore need to be sampled, so the same thinking applies to assessment of practice. The question is: What kinds of engagement, to what kinds of extent, and what kinds of practice are sufficient for a graduate in any given course?

One solution is to look at the problem of assessment in a radically different way as proposed by the late Peter Knight (2007). Although he was not discussing it in the context of practice-based courses, his ideas are particularly applicable to them. He argued that learning environments should be constructed such that students learn what they need by merely engaging fully in them. No separate assessment is necessary because the practice itself cannot be undertaken properly without the necessary learning occurring. From this perspective, it is workplaces and practices that are assessed, not the students who take part in them. To make this work effectively, it may be necessary to relax time limits on course units to make them more like normal work so that students continue to practise until they are effective. Courses offered outside some of the tyrannies of modularisation and semesterisation may need to become more common if this idea is to take root.

In Conclusion

To summarise, what does this argument suggest we need to do to design deliberate

practice-based educational courses? Firstly, there is a need to identify and select the professional practices that meet the standards of a given qualification. Secondly, opportunities for partial and full participation in practice are arranged as a necessary part of the curriculum. Thirdly, the environment of practice is quality assured as meeting these requirements for all students. Fourthly, the use of briefing, debriefing and other reflective activities is involved to ensure practice has been fully engaged. Finally, assessment activities will need to be designed in accordance with the overall practice philosophy of the program.

In generating the curriculum, particular forms of research will be required to identify the practices of given typical practice environments, the practices of common professional work, what practices are available for students to be engaged in, and in what ways they are available, e.g. with certain kinds of support or supervision.

Within the course, students will need to be scaffolded into practice through:

- practice-like activities: for example, inquiry-based learning, group work, cooperative assignments, giving and receiving feedback, debriefing
- self-managing activities: for example, self-assessment, negotiated learning, reflective tasks, seeking and utilising feedback
- simulated activities: for example, holistic groupings of practice elements in a protected environment.

Without practice in the professional domain being integral to the course, deliberate professionals cannot begin to be produced. Being deliberate learners is not enough. It requires a deliberate curriculum that addresses and incorporates the nature of practice.

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