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8. PRACTICE-BASED LEARNING

Multiple Dimensions and the Importance of "Others"

Learning to become a professional, autonomous clinician requires the acquisition of an extensive set of knowledge, skills and behaviours. Regular immersion in the complex and diverse world of professional practice is a crucial aspect of the learning journey. In this chapter we argue that for practice-based learning to be both effective and meaningful it must include an appreciation of the multi-dimensional nature of healthcare. For graduates to be work-ready, they should previously have encountered three key dimensions of practice. First, as students they should have achieved competence and confidence in working and learning with a range of "others." This starts with fellow students, gaining teamwork and collaboration skills. Second, students should have worked with colleagues and students from different professions, encountering various roles and levels of expertise, learning to identify commonalities of practice and locating the uniqueness of their own contribution. Third, learning should have been situated in authentic practice settings, ensuring adequate exposure and enculturation within the diverse milieu of practice.

BUILDING MULTI-DIMENSIONALITY INTO PRACTICE-BASED EDUCATION

Practice-based learning must offer experiences that equip learners with the capacity to cope with the complex and diverse nature of practice with its many, often conflicting priorities and unpredictable outcomes. This complexity can be daunting for students as they progress through higher to lower levels of support, while facing increasing challenge. It is also difficult for clinical educators to orchestrate appropriate learning opportunities. Fortunately, many sources of learning and support are available to students that extend beyond the direct reach of the clinical educator. Learning with and from student peers is invaluable in this regard, as is exposure to a range of intra- and interprofessional situations in which practice can be viewed from different perspectives. We argue that for practice to become holistic and patient-centred or client-centred, learners must have engaged in learning experiences that are themselves multi-dimensional.

Educators try to offer opportunities for students to both *learn* and *function effectively* in a range of academic and clinical contexts, using both propositional (fact-based) and craft-based (practice-specific) knowledge. During these episodes, they will receive support from many "others," including academic and clinical

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colleagues and student peers. Clinical presentations of common and rare conditions will be encountered, manifesting according to a host of variables including level of chronicity, age, gender, ethnicity and co-existing pathologies. Similarly, students will learn to function in uni-disciplinary clinics, in multi- and interdisciplinary teams, wards and units, while providing care on an in- and out-patient basis and in patients' own homes. Through this composite picture, students build a rich and holistic view of practice that both witnesses and examines understanding of their own discipline and its relationship with others.

Underlying Theory

In this chapter we consider three models of practice-based education that offer multi-dimensionality and contact with a range of "others": peer learning, interprofessional learning and situated learning. All have a common theoretical foundation that locates learning as a socially constructed activity. Constructivist theories of learning traditionally draw on the work of Piaget (1926) and Vygotsky (1978), who emphasised the importance of sociocognitive and sociocultural development. Piaget argued that learning occurs through processes of conflict and reconciliation as we seek to integrate new information with pre-existing knowledge. Vygotsky stressed the importance of help from another person in this process, particularly in relation to skill development. Social interaction, dialogue and cognitive challenge, demonstration, modelling and reinforcement all contribute to constructivist learning (see e.g. Bandura, 1971; Johnson & Johnson, 1987; Renshaw, 2004). In this respect, the constructivist stance incorporates understandings of learning from both behaviourist and cognitive stances. The practice setting offers rich and varied opportunities for such learning through interaction with student peers and with colleagues from one's own profession and from other disciplines.

Below, we illustrate the means by which students' engagement in multi-dimensionality is facilitated, challenged and supported through peer learning, interprofessional learning and situated learning.

PEER LEARNING

Learning with and from others is a vital aspect of effective clinical practice: it facilitates students gaining confidence and competence in clinical skills and in the knowledge and application of theory. Effective participation in peer learning supports the development of students as effective team players, capable of meaningful professional relationships and collaborative problem solving. Significant components related to the companionship, collaboration and comparison experienced by students engaging in this process have been identified (Baldry Currens, 2008, 2010); these are outlined in the following sections and considered in relation to their contribution to multi-dimensionality.

Companionship

Experiencing the uniqueness and challenge of clinical experiences can be both exhilarating and overwhelming. The presence of a student peer helps to reduce the magnitude of the situation by offering reassurance and safety through a sense of the familiar. Friendship or even prior knowledge of peers is unimportant, provided compatibility, trustworthiness, mutual tolerance and respect exist. Through expression of similar anxieties and insecurities, peers learn to offer support and reassurance, build confidence, identify solutions and celebrate achievements. Using relaxed language and gesture, and drawing on real experiences, peers offer one another a space for expression that is usually perceived as more supportive and less judgemental than that with an educator. In this space, peers help to mediate emotional expression and create conditions that are conducive to learning.

Collaboration

A paradigm that emphasises the importance of learning with and from fellow learners might challenge those more familiar with traditional approaches in which learning and teaching are led by a senior and accomplished educator. Broadly, the peer learning process integrates sharing and disclosure with dialogic, reflective, experiential and discovery-based learning. These experiences might be constructed and planned by the clinical educator, but it is more common for peer learning to occur spontaneously, created between peers without the presence or organisation of an educator. As peer learning is an umbrella term that comprises many formats and incorporates a variety of activities (see e.g. Rushton & Lindsay, 2003; Ladyshewsky, 2006), it is helpful to identify two principal sets of collaborative learning activities that comprise peer learning behaviours, namely those that are dialogic and those that are activity-based (Baldry Currens, 2008). In both dialogic and activity-based collaboration, peers engage flexibly, according to the demands of the clinical situation and the needs and preferences of participants.

Dialogic activities include asking and answering questions, ranging in complexity from simple to highly complex, sometimes indicating the need for broader consultation with others. Peers help thoughts to be clarified and concepts reframed. They exchange ideas and information, accumulate and extend knowledge and practice. In some peer relationships richer dialogues may also be observed, in which dynamic and highly interactive discourse involves probing of ideas, mutual elaboration, and the creation of new conceptions and meaning.

Activity-based behaviours involve a range of situations and behaviours in which peers learn through practice. These may include the modelling of effective behaviours and strategies that peers wish to emulate, as well as those less successful that they wish to avoid. Peers practise treatment approaches together, learning through repetition and rehearsal. They observe and review one another's practice, sometimes tutoring each other, using supportive critique as a platform for mutual investment in learning, consolidating and reinforcing skill development.

Comparison and Competition

Many students find it helpful to compare their progress with that of a peer. Ideally, this is a private, internalised process, in which a peer (inadvertently) provides a "mirror" in which a clearer judgement of one's own performance can be obtained (Baldry Currens, 2008). Competition between peers may be perceived as positive and constructive, providing a motivational boost. However, conceptions of both comparison and competition are highly individual and, for some, carry negative connotations. Mismatched or inappropriate perceptions and behaviours can result in rivalry and one-up-manship, damaged self-esteem and the loss of valuable learning opportunities.

The presence of a peer offers an expanded horizon on which broader perspectives and differing views may be explored. Challenge and conflict resolution are critical to constructivist learning practices, as are opportunities to disaggregate and reassemble ideas, consolidate understanding, create and co-create new meaning and knowledge; these activities enhance understanding of practice within a profession. However, for practice to fully meet the needs of patients, it is also essential that students appreciate their practice through the eyes of others, as can occur in interprofessional learning experiences.

INTERPROFESSIONAL LEARNING

Learning in an interprofessional context occurs when "*two or more professions learn with, from and about each other to improve collaboration and the quality of care*" (CAIPE, 2012, para. 1). We argue that interprofessional learning (IPL) adds a dimension that is important to the development of students' understanding of their own discipline and its relationship to other disciplines. Thus IPL can be seen to underpin graduates' capacity to be effective in the provision of holistic, client-centred health care. As explored below, engaging in effective IPL requires understanding of different approaches to learning and teaching, and knowledge of the characteristics of both students and educators that affect IPL experiences.

Proponents of IPL recognise that prior experiences, perceptions, expectations and ways of using and understanding knowledge (Hammick, Freeth, Koppel, Reeves, & Barr, 2007) influence engagement with, and outcomes from, experiences of interprofessional education. Rather than try to minimise the effect of prior knowledge and experiences, effective interprofessional education draws upon these to provide a richness and diversity to students' learning experiences. By bridging the gap between previous and current experiences, educators can capture students' attention, an important first step in the acquisition of knowledge and the development of new understandings (Braungart & Braungart, 2002). Ways in which different interpretations distort reality and perpetuate myths about other professions and their practices may also be identified.

The influence of previous experience is important for the use of practice-based IPL. For example, IPL may be seen across a spectrum of approaches, from several professions learning in the same classroom, such as found in foundation science

classes (anatomy and physiology) in health education, to small groups of students from different disciplines working in partnership with a client in practice. Enabling students to realise their potential in the latter requires an understanding of the perceptions and interpretations that arose from the former. Essentially, a rich, holistic learning experience is one that witnesses and tests students' understanding of their own discipline with other disciplines in all aspects of their learning journey. IPL experiences that draw upon students' previous experiences enable them to interpret new information on the basis of what they already know and, through re-organisation, to create new insights or understanding of their own practice (Bandura, 2001; Hunt, Ellis, & Ellis, 2004).

For those involved in health education, where school leavers often predominate in student cohorts, it is important to be aware of the characteristics that differentiate adolescent from adult thinking. Adult thinking is marked by the capacity to handle contradiction and to synthesise information in ways that effectively integrate what has been previously learned (Kramer, 1983). IPL is unique in its capacity to present contradictions as individuals from different professions grapple with different ways of knowing and different perspectives. For students who are yet to establish adult ways of thinking, this can be unsettling, detracting from their enjoyment of the educational experience and perhaps reducing their sense of value for interprofessional practice and for the role of others.

Undertaking IPL just for the purpose of experiencing it is likely to fail to engage students whose key goal is to become a member of a specific profession. Indeed, IPL provides a vehicle for students to move in and out of the languages of different practices. The realisation of useful outcomes from IPL is dependent upon authentic learning, where experiences are directly related to the goals of learners, an helping them to identify the purpose of their learning. IPL provides opportunities for such authentic and tangible experiences when educators directly link the IPL experience to objectives related to an individual student's professional practice. Scaffolding this with opportunities for discussion and reflection about the student's professional and team roles and the roles of others can facilitate movement beyond basic understanding of interprofessional practice to a depth of awareness of professional practice and its impact on holistic client-centred care. Through repeated effective IPL experiences, students can build understanding in the further development of their identity as practising individuals.

Scaffolding to authenticate IPL experiences may be used with other strategies to develop a student-centred approach to learning. This has been associated with enhanced learning outcomes (Lea, Stephenson, & Troy, 2003). However, student-centred approaches require care as they can add a destabilising layer of complexity (Geelan, 1999), important in the complex IPL context where students are already reframing their professional identities. The presage-product-process model of student learning (Biggs, 1999) is another reminder of the need for awareness of the influence of previous learning experiences on a current experience. That is, in IPL as in other approaches, student perceptions from previous experiences of what is required (i.e., surface learning achieves success) will lead to them adopt similar

approaches in the new context regardless of the stance of the educator. Choice is a key element in adult learning and has been the capstone for student-centred learning (see Burnard, 1999; Taylor, 2000 for further reading). However, educators should negotiate with students to ensure that expectations are understood and that approaches are adapted in ways that help students to focus on areas of perceived as well as actual need.

IPL is a fundamental dimension in the development of graduates who are capable of holistic, client-centred practice. However, IPL experiences should be constructed in ways that enable involved professionals to understand another professional's practice by more than just what they see. A superficial exposure could leave them with a blinkered view of the world, limiting their capacity to transfer knowledge. As with any learning, it is important to break down tasks so that students can build an understanding of their role in relation to other professions. Situated learning provides an ideal context for this.

SITUATED LEARNING

Lave and Wenger (1991) identified the fundamental importance of context and culture in relation to learning activity. Their theory of situated learning locates a learner as one who acquires knowledge and skills through engagement in authentic processes and practices, gained primarily through working with "others." The concept of "legitimate peripheral participation" (Lave & Wenger, 1991, p. 29) is critical; it emphasises the centrality of learning through interaction with colleagues within a community of practice, working alongside experts and participating in their practice, progressively undertaking tasks and responsibilities of increasing complexity. Preferred learning practices avoid hierarchical, instruction-dominated direction from experts, instead favouring interactive learning, improvisation and co-construction with peers (Wenger, 1998).

A pedagogy that emphasises immersion in authentic culture, progressive engagement, peer learning and exposure to the practice of more experienced colleagues has considerable resonance with current assumptions and aspirations of professional healthcare education. To some extent, it is reasonable to claim that all practice-based programs that provide placements of any type offer learners the experience of situatedness. It is also possible to extend this further by offering entry programs with a construction more firmly rooted in situated learning theory. This has been previously described in relation to physiotherapy (Baldry Currens & Hargreaves, 2010), in which students are primarily located as "interns" within an employing hospital, having been jointly recruited and selected by both the hospital and the university. Learning and responsibility for teaching occur equally in both settings – a significant difference from more traditional models of academic provision (involving periods of block practice placement or those in which physiotherapy assistants engage in degree programs).

Partnership and Collaboration

The creation and implementation of an undergraduate healthcare degree based on situated learning theory, such as the model described above, requires significant investment and partnership from both healthcare providers and universities. Close collaboration is essential in designing curricula that will be jointly owned and delivered by clinicians and academic partners. The realities of delivering within the workplace learning opportunities that in more traditional programs would be delivered within a university in preparation for later application on placement, provide considerable challenges. Careful negotiation can result in greater mutual understanding and respect for organisational perspectives and institutional priorities. A further positive outcome is that, since clinicians and academics make a more equal investment in supporting the development of skills and knowledge in each learner, there is potential for a more fully realised sense of shared satisfaction and achievement.

The Learning Experience

For learners undergoing a situated learning program, the experience, like practice-based education more generally, can be overwhelming. It is essential, therefore, to help learners identify explicit links between structured clinical experiences, curriculum content and intended learning outcomes. Peer learning is invaluable in this regard. Furthermore, offering support in the formulation and navigation of manageable learning activities of appropriate breadth and depth is crucial, ensuring that learners are able to identify the achievement of specific milestones in terms of knowledge, skills and behaviours. Similarly, helping learners to recognise and value both propositional and non-propositional knowledge is important, especially since university and clinical practice tend to attach value to different types of knowledge. Situated learners can often be caught in the cross-fire of expectations related to traditional and espoused theory and the weight of research-based evidence, so valued by academics, versus the realities of practice in the field. Differences in practice between clinicians, particularly professionals of differing levels of seniority and specialty, can prove immensely contradictory and confusing in this regard. Exposure to theory–practice dichotomies, and acquiring the skills to successfully navigate such challenges, is a significant hallmark of a situated learning program, as is enculturation within the often complex and multiple realities of authentic practice (Baldry Currens & Hargreaves, 2010).

SIGNIFICANT QUESTIONS FOR PRACTICE AND LEARNING

We have highlighted three models that offer multi-dimensionality to the practice-based education of health professionals. Their use foregrounds the need to balance exposure of learners to practice that is complex, messy and real, with simplification of practice in order to support student learning. We have emphasised the value of learning from a diverse range of "others" throughout these learning experiences in

order to gain richer perspectives. We have argued that integration of the three models of learning is important, and we recommend adopting this approach from students' first learning experiences in courses.

Students bring prior experiences and perceptions of the health profession that they seek to join. Early exposure to the realities of practice would seem to be critical, since students' professional identity and understanding of their role as a member of that profession already has some substance. However, simplification of this approach through scaffolding is necessary, to prevent the experience being reduced to knowledge transmission, rather than being transformative.

The key goal of scaffolding should be to empower the learner, facilitating independent problem solving and self-regulated learning. Holton and Clarke (2006) identified agency as central, defining scaffolding as "an act of teaching that (i) supports the immediate construction of knowledge by the learner; and (ii) provides the basis for the future independent learning of the individual" (p. 131). Scaffolded learning has strong links with the acquisition of metacognitive capabilities and the skills necessary for effective clinical practice, such as critical thinking, reflective judgement and problem solving (Holton & Clarke, 2006). Metacognition is essential when a task becomes more complex and thus more challenging. It requires a person to have the ability to self-regulate or self-control, to have knowledge of one's beliefs, intuitions and thought processes (Schoenfeld, 1992).

Many students need help from educators if they are to establish capabilities that support metacognition in health practice. Achieving this in the multi-dimensional model that we have outlined is ideally supported by a paced approach to teaching that builds upon a foundation of simple experiences, cases and contexts and exposes learners to progressively greater degrees of difficulty. The skill lies in designing experiences that provide incremental exposure to additional layers of complexity in ways that support rather than undermine student learning in the context of real-world practice. While real-world learning cannot be stage-managed to offer precisely the most appropriate degree of challenge, over-exposure can be mediated to some extent by the support of student peers and more experienced professionals.

CONCLUSION

In this chapter we have argued that practice-based experiences are most effective when they integrate three dimensions that enable learners to appreciate the complex interplay of practice elements. Opportunities for peer learning support knowledge creation and skill development while promoting team practice and collaborative problem solving. Interprofessional experience helps learners to appreciate the balance between the perspectives of self and others as they develop a broader view of practice. Finally, we emphasised the importance of situatedness and facilitated exposure to the realities of authentic practice, ideally gained through graded exposure to complexity. We believe that the inclusion of these three dimensions in practice-based education supports the development of sensitive,

flexible and client-centred professionals who are able to apply metacognitive strategies across the rich tapestry of clinical challenges.

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