Professional and Practice-based Learning

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Practice-based Learning in Higher Education

Jostling Cultures

Springer

Professional and Practice-based Learning

Volume 10

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ISSN 2210-5549 ISSN 2210-5557 (electronic)
Professional and Practice-based Learning
ISBN 978-94-017-9501-2 ISBN 978-94-017-9502-9 (eBook)
DOI 10.1007/978-94-017-9502-9

Library of Congress Control Number: 2015932079

Springer Dordrecht Heidelberg New York London

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Series Editors' Foreword

Across most nations with advanced industrial economies, provisions of higher education are now being increasingly directed towards outcomes associated with specific occupations and the employability of graduates within those occupations. In different ways, university programs are increasingly giving greater consideration to the world of work beyond higher education, and, in many instances, to the particular requirements of specific occupations, and, in some situations, the particular circumstances where occupations are to be practised. Hence, medical education in some instances is not only focusing more completely on clinical aspects of that education, but also particular forms of clinical practice (e.g. in rural settings). One consequence of these changes is for a wider and more comprehensive consideration of the ways in which students' practice-based experiences can contribute to their higher education programs and outcomes. Of course, there is nothing particularly new about a consideration of work or practice-based experiences as part of higher education programs. This has long been a part in programs preparing graduates as doctors, lawyers and engineers, and more recently nurses, physiotherapists, journalists and teachers, to take some examples. However, there are now two distinct changes that in some ways that these experiences are being included within higher education programs. Firstly, the growing interest in and need for practice-based experiences to be essential components of higher education programs has seen an increase in the demand for these kinds of experiences because now they are required far more widely in university programs. However, the kinds of models and approaches that have been used in medicine, teaching and nursing to provide these experiences (i.e. supervised placements) may are often not appropriate for a range of occupations now requiring these experiences, but these kind of resource-intensive provisions are unlikely to be available more broadly. Secondly, there is a need for the experiences provided and practice settings and processes accessible within them to be understood as making particular contributions to students' higher education. That is, rather than being seen as augmenting, extending or refining what can be learnt in university settings, these experiences have the potential to make quite distinct contributions to students' learning and, in particular, their readiness to engage in their selected occupation upon graduation.

It follows, therefore, that far greater numbers of university teachers are now engaging in providing these experiences and seeking to utilise them effectively in

promoting their students learning, and for a wide range of purposes. Consequently, it is important for examples of the purposes for providing these experiences and instances of how these educational experiences are enacted to be available to inform the broader adoption of practice-based experiences within higher education.

The provision of these examples and instances is the key focus of this edited monograph. Its overall project is to emphasise the importance of the role that higher education teachers play in formulating the purposes for their students' experiences in practice settings and activities, and then enacting those experiences. Such a role requires understandings of the broader and specific context for higher education provisions including what various interests promote in terms of particular emphases within the purposes of programs and content within courses. Hence, the first set of contributions in this edited monograph set out some of the key issues and concerns associated with the provision of practice-based experiences within higher education. These contributions inform how teachers in higher education might consider or approach providing students with these experiences and for what purposes. The second set of contributions comprises instances of how teachers in higher education across a number of countries have addressed these issues. Importantly, the examples provided here are not merely reflecting pragmatic goals associated with job readiness and employability, as exhorted by some. Instead, issues addressed here include how ethical conduct can be learnt by students, questioning the implications of clinical governance within healthcare education, mediating the influence of professional standards in shaping access to and the kinds of experiences provided within healthcare education, and the role that occupational standards play as mediating artefacts in shaping those provisions. Hence, these contributions address issues that have come to be the concerns of many teaching in higher education, as they attempt to reconcile the range of interests which are shaping the educational purposes of their programs and their students' experiences and considering how they should act as higher educators.

A third set of contributions addresses aspects of how these provisions might progress. These extend to an appraisal of how electronically-mediated learning experiences can be provided in ways that integrate those founded in practice, those in laboratory work and those which need to accommodate multidisciplinary contributions. Here, specific issues about and formulations for providing and integrating practice-based experiences are advanced, including considerations of how conflicting demands and time constraints play important roles in how teachers in higher education come to engage with and enact practice-based experiences for their students.

It is through this set of contributions that variously focus upon the broader educational contextual issues, specific and sometimes contested purposes, and then practices associated with higher education teachers work that this edited monograph makes its contributions.

Stephen Billett,
Christian Harteis and
Hans Gruber

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Chapter 1
Practice-Based Learning in Higher Education: Jostling Cultures

Monica Kennedy, Stephen Billett, Silvia Gherardi and Laurie Grealish

Abstract The collection of papers that comprise this edited monograph addresses issues confronting universities' attempts to integrate practice-based learning in higher education curriculum. It is through accounts and analyses of activities that the kinds and extents of this jostling of cultures within and amongst the academy, industry, government and professional bodies and other educational providers become evident. The contributions, in different ways, engage theory in practices (Price et al. 2009) through appraisals of a range of issues in the recognition and implementation of practice based learning initiatives. The contributions explore the epistemologies, structures, politics, histories and rituals that both support and constrain opportunity and success in students' experiences, and illuminating the issues, practices and factors that shape the processes and outcome of educational efforts to integrate experiences in both practice and educational settings, each of which has their own distinct cultures, practice within their communities (Gherardi 2009).

Keywords Practice-based learning · Educational settings · Higher education curriculum

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_1

Practice-Based Learning and Higher Education

A shift is occurring in accepted cultural precepts about the educational worth of particular kinds of experiences and where those experiences might be best provided. In particular, when those circumstances where the occupation is practised as well as activities and interactions comprise those which the student is seeking to learn about, the learning outcomes are likely to be far richer than when the circumstances are remote and the activities and interactions are substitutes. For instance, universities and other kinds of educational institutions have developed workshop and workplace type facilities and experiences that are often very useful for developing specific procedural skills and provide an important incremental step towards engaging in practice settings and practice work. For instance, at a hospital associated with Linkoping University in Sweden they have developed teaching wards in which student doctors, nurses, physiotherapists and social workers essentially run wards with low acuity patients. However, whilst these are important provisions for developing clinical skills and into professional working and learning, they are not intended and unlikely to provide the authentic experiences of health care work and workplaces. What all of this suggests is that workplaces provide experiences that are quite distinct from those which can usually be provided within educational settings. There are of course exceptions. For instance, the University of California, San Francisco is a health care university that sits within a hospital. In such an environment there is little separation between the hospital wards and the education facilities, for the nurses and doctors who are trained there and the staff who teach in its programs. There are also programs in the United Kingdom which are entirely work-based and students working and learning co-occur in the workplace and their projects comprise what they are assessed upon. However, these are the exceptions.

The simple point is that rather than being merely environments in which the knowledge learnt in universities can be practised, refined and honed, workplaces provide particular kinds of experiences which have the potential for students learning which is unlikely to be secured in other kinds of circumstances. This conclusion challenges a key cultural assumption under which much of education is advanced. That is that experiences in educational programs are likely to lead to adaptable or transferable knowledge. Otherwise, why would you have educational institutions and educators? There are a range of reasons for having these institutions and those teaching within them, such as the structuring of learning experiences, the making accessible much of the concepts and procedures required for demanding thinking and acting, not to mention the kinds of capacities requires to count, communicate and understand the social and cultural contexts in which we live. However, there is now less confidence that the promotion of all of this knowledge can best proceed in ways that make it applicable to the world beyond the academy unless there are experiences that can supplement and augment what is provided in universities, and also provide bridges for the application of much of what is learnt through university provided provisions.

So, beyond the pragmatics of having the relevant experiences, the learning sciences suggest that workplaces offer particular kinds of experiences that are likely to be generative of the kinds of knowledge which are experienced and utilised within them. Whilst these issues may be of lesser concerns to educational provisions that have little or no direct applicability to applications in domains of occupational practiced and particular kinds of workplaces, they are likely to be more important and crucial when the educational program is being directed towards the development of those kinds of occupational capacities. So, such developments and requirements for contemporary practice in higher education represent some challenges to the cultural practices of university curriculum and teaching, and perhaps also for how students come to engage in workplace settings.

The Provision of Practice-Based Experiences in Higher Education

Of course, there is nothing particularly new about this emphasis on workplace experiences in higher education. There are strong traditions in North America associated with the co-operative education movement and internships, both of which provide extensive periods of experience in workplaces, often with the students engaged in paid employment. Then, there are the 'sandwich' courses which were favoured in the United Kingdom, and many occupations have long-standing practice-based components in their programmes of initial preparation. Indeed, it would be unthinkable to envisage medical, teacher, nurse, physiotherapy or law education without extensive periods of practicum. The cultural practices of the provision of and engagement by students in these programs are well established and entrenched. Now, however, these kinds of experiences are being built into the programs for a far broader range of university-based programs including those for journalism, hospitality, pharmacy, social work, engineering, applied psychology and education. Indeed, as most programs in higher education institutions increasingly have an orientation towards, if not a direct relationship with, a specific occupation such experiences are in growing demand.

Yet, while there is nothing particularly new about having workplace experiences as part of university programs, there are at least three new requirements arising from the demands for this broadening provision. Firstly, there are traditions of support and well-established institutional arrangements for those occupations which have long enjoyed practicum, clinical placements or practice-based experiences. Yet, many of the programs now requiring these experiences do not have such arrangements. Moreover, for some it is unlikely they will ever be developed. For instance, one pro vice-chancellor questioned how the university could provide work-based experiences for up to 2000 Bachelor of Business students per year. Certainly, it is unlikely that the kind of supervised practicums which medicine, nursing, teaching and law have long enjoyed will be available to the host of programs now seeking work-based learning experiences, particularly of the example used above. Such arrangements would be highly resource intensive and impossible to sustain over time

within current university resourcing and funding arrangements. Secondly, and as indicated, the numbers of students engaging in these programs means that mass responses will be required for these programs. These responses are likely to be provisions which are premised on efficiency in teaching, administration and monitoring, and will likely involve teachers and students in organising and managing much of those provisions within a university context that is not structured to support the necessary arrangements. So, there is a lack of the cultural premises within the education provisions and cultural practices within workplaces to secure the kinds of provisions enjoyed by medicine, nursing and education for instances. Thirdly, it will likely be university teachers who will have to innovate to maximise and possibly augment their students' experience in practice settings and so change will be required in the practices of those who teach in those programs, not all of whom may want to willingly engage in such transformations to how they teach and otherwise interact with their students. So there are a range of cultural practices that need to change for the provision and integration of workplace-based experiences to progress.

Negotiating Amongst and Jostling Cultures

Indeed, there are others, and many within the academy, who are legitimately concerned that this strong and pervasive focus on occupational specific outcomes is not educationally desirable. Some might suggest it is even a fashion that has perhaps gone too far and too quickly. This sentiment seems to be strongest when the content and focus of programs is dictated by agencies from outside universities and where what they propose does not always seem to be of great educational worth, and not worthy of constituting higher education. This concern also probably reflects another agenda arising from those outside of universities: i.e. to control what occurs within educational institutions. Certainly, across most countries with advanced industrial economies the focus of government, industry and community interests towards education seems increasingly about controlling what is taught, by whom, and how it is assessed and for what purposes. Of course, this exercise is no stranger to those involved in vocational education, now strongly influencing what is occurring within the schooling sector and clearly beginning to shape the expectations, processes, content and preferred outcomes of higher education. Again, this is not wholly new to higher education. There have long been requirements of medical boards, legal professions and nursing and teacher registration authorities for certain kinds of content to be taught in programs preparing those professionals. It also needs to be reminded that educators rarely if ever establish educational institutions such as universities. These institutions are inevitably established by state or religious organisations and their establishment reflects a society's particular needs and concerns. Therefore, whilst those who teach have a range of legitimate concerns, orientations and preferences for how educational programs might progress, there is necessarily a strong set of institutional and societal imperatives sitting behind the provision of higher education programs. Moreover, as societies have moved into having mass higher

education an inevitable consequence will be a greater engagement with the state or religious institution to manage effectively the growing commitment of costs and other resources that will undoubtedly increase as students numbers grow. Indeed, it is not just the engagement with regulatory authorities and government that comprises the external shaping of higher education provisions. The very requirement for university students' smooth transition to employment upon graduation necessarily means that there has to be a greater interaction between those teaching in the university and those who practice the occupations and employ graduates. Yet, in all of this, it will be the talents, interests and capacities of educators who will be pivotal in determining whether the kinds of outcomes sponsors of educational institutions seek are achieved, the demands of external bodies are realised and students' needs are adequately understood and responded to in ways that are directed to their interests, and those who support their education will offer employment and opportunities to practice their skills.

So, a consequence of embracing practice-based experiences within our education programs is the coming together of practices and priorities within and outside of higher education institutions, sometimes mediated very strictly by occupational requirements and standards, as well as accrediting authorities. The bringing together of the values and practices of divergent communities necessarily leads to the jostling of cultures. Teachers and students will seek to respond to these requirements and standards in ways which emphasise negotiations of different kinds. These ways will likely include what teachers believe should be taught and how it should be taught and the exercise of discretion to achieve those outcomes, within a wider system of constraints and opportunities associated with occupational regulation and licensing authorities. Then, there will be the negotiations between teachers and their students as the latter seek to manage their time across study life paid part-time work and the demands brought about by practice-based experiences, which are often in addition to and outside of what occurs in the university program. Then, there is the issues of negotiating the curriculum of content, meeting different requirements and reconciling the different kinds of experiences that students have within practice settings and also when aligning those experiences with their educational goals and outcomes. Consequently, what is occurring is a great deal of jostling between competing priorities across these different cultures.

Transforming Institutional and Teacher Practices

It follows, therefore, that the provision of student experiences in workplaces necessarily brings with it a range of changes to teaching roles and student engagement within higher education institutions. It is these issues that are in part addressed in the collection of papers that comprise this edited monograph. Each of the contributions addresses these concerns in particular ways and with specific emphases and always in part. Yet, there is a common concern here focussing on issues confronting universities' attempts to integrate practice-based learning in higher education curriculum.

It is through accounts and analyses of activities that the kinds and extents of this jostling of cultures within and amongst the academy, industry, government and professional bodies and other educational providers (not to mention students) becomes evident. The contributions, in different ways, engage theory in practices (Price et al. 2009) through appraisals of a range of issues in the recognition and implementation of practice based learning initiatives. The contributions here variously explore the epistemologies, structures, politics, histories and rituals that both support and constrain opportunity and success in students' experiences, and illuminating the issues, practices and factors that shape the processes and outcome of educational efforts to integrate experiences in both practice and educational settings, each of which has their own distinct cultures, practice within their communities (Gherardi 2009).

These contributions also respond and inform the contemporary focus on the confluence of working, learning and knowing, and the appropriation of the 'practice' label within higher education. The practice 'bandwagon' (Corradi et al. 2010) has gathered up 'practice-based learning' and 'work-based learning' inquiry and literature (Billett 2006; Boud and Solomon 2001; Fenwick 2004) exploring the co-occurrence of learning and work and drawing attention to the educational opportunities and outcomes inherent in this process. The application of this interest within the higher education sector extends 'practice' beyond the domain of the vocational education and training within the education sector (OVAL 2003) and human resource development within the business and government (Bryans 2000; Fuller and Unwin 2004) into higher education, where its presence has curiously been restricted to ancient disciplines and new occupations. As noted, however, programs within higher education come to increasingly focus on occupational specific outcomes, the provision of practice based experiences is shifting from being included in a limited select number of occupations to a wider range and number of programs, and it sometimes seems almost universally, as there emerge imperatives to make employment relevant programs that have no specific outcomes. Hence, it becomes a concern for nearly all discipline areas within universities.

The resurgence of interest in practice-based experiences, (i.e. those in the authentic circumstances of occupational practice) in higher education is accompanied (and fortified) by increased pressure on the sector to more directly address the needs of industry in the development of students and their qualifications (BCA 2008; Bradley et al. 2008; DEST 2002; Murray 2007) and what is sometimes termed the massification (Alexander 2000; van Damme 2001) of higher education globally. The increasing number of people accessing higher education, and in particular, accessing higher education to develop knowledge and skills in preparation for future careers adds impetus to a shift away from the (Lomas and Tomlinson 2000), 'traditional liberal ideal' of higher education (Lomas 1997, p. 111) and toward occupationally-specific oriented offerings in higher education, which have led to some labelling university education as becoming higher vocational education. Such a labelling is not particularly helpful nor accurate given that much of higher education always have had purposes associated with paid occupations. Indeed, beyond the long standing courses that have long been preparatory for the major professions, even the

so-called liberal education was often directed at supporting particular classes of males secure 'clean' and desirable occupations in the civil service or diplomacy.

The imperatives stated above have also conspired to challenge orthodox notions of what constitutes the kinds of learning and knowledge that exist in the academy and reshape the place professional identities, politics and programs within higher education, but there is nothing new about such debates and the jostling for status and legitimacy seems perennial. Indeed, actions and initiatives within universities are often framed as one of contestation—either as serving an economic purpose or as promoting the development of mind and culture (Lomas 1997), while the two are not mutually exclusive. This framing, however, brings with it issues regarding the relative value of educational offerings. To, some, practice-based learning conveys '… connotations of manual effort' (Lomas 1997, p. 112) which signifies direct and not wholly desirable economic interest, and hence, inferiority in terms of intellectual and academic value. However, these views are often premised on elite and unfounded assumptions and seek to unhelpfully distinguish between forms of occupation, work and working knowledge rather than reconcile and make them more amenable and accessible.

So, while these perspectives seek to describe learning in workplace settings as 'technicist' for narrow and self-serving purposes (Billett 2002, p. 40) it is noteworthy that this technicist interest is not restricted to the workplace—it is clearly evident in higher education (Fraser and Bosanquet 2006, p. 279), and through their exploration of the cultures of practice-based learning approaches and issues, the contributors illustrate the possibilities of communicative and emancipatory interests in the integration of learning and work. Billett (2002, p. 28) calls for 'a pedagogy for the workplace'—a theory of how learning proceeds at work, and more recently a pedagogy, curriculum and epistemology (Billett 2011), which includes the integration of experiences within and outside of the academy. This book takes up that challenge in particular ways by discussing and elaborating how such a pedagogy can effectively co-exist with the practices and interests of academia, and in doing so lays bare the tensions between learning in workplace practices and the cultures that contribute to the complex relationships required for successful implementation in higher education. It does so in an attempt to resolve an approach within which university students may enjoy the learning inherent in the practice of work whilst pursuing robust higher education qualifications.

In advancing these issues and elaborations, this edited volume sets out key issues for the effective integration of learning and work within higher education programs' curriculum and pedagogy. It sets out some key issues through distinct and multiple analyses and establishes the theoretical terrain through which they are to be discussed and appraised. This edited volume commences with this introductory chapter which sets out the range of issues addressed and then previews the contributions. It concludes in the final chapter with a review of these contributions, and summarises them to offer an overall account of the learning practices of work and higher education and the possibilities of their integration that are advanced across the contributions.

Contributions to These Arguments

In overview, the contributions advanced through this edited monograph are as follows. Firstly, this preface has sought to establish the context, purpose and overall emphases for the book. It attempts to respond to the question: how do the cultures within and between industry, higher education and vocational education institutions impact on the way that learning and practice are conceptualized, undertaken and valued?

Contemporary pressures for meeting the needs of occupations and their practice are emphasizing interdisciplinarity, problem-based and professionally oriented approaches to higher education. As noted, these imperatives are inviting changes to the existing purposes and approaches to higher education. These extend to what constitutes and development of the values underpinning curriculum design and pedagogical practice in higher education. The concept of a 'culture' lens, has been introduced as a collective device under which the myriad perspectives on practice-based learning may meet, and also be positioned as an explanatory device for institutional and personal practices.

In setting out the requirements for and interactions comprising practice-based learning, it is helpful to be informed by a review of what is currently known or understood. As this monograph combines experiences of practice-based learning in the academy with theories of practice-based learning it is helpful to explore premises, issues and possibilities in the integration of practice and learning in higher education. In Billett's chapter that follows this introductory chapter, a review of the literature on practice-based learning, with a particular emphasis on the issues faced in its implementation in various sectors, a preview of the issues raised and discussed in the following chapters is provided. He concludes with a summary of the main themes which are highlighted under the 'culture' lens—values, rituals, language, artifacts, structures, standards, and tools—and present a brief introduction to their relationship to the book's chapters.

In her chapter—Knowledge claims and values in higher education—Kennedy holds that the epistemological distinctions that underpin disciplinary and sectoral differences in pedagogy and research constrain opportunities for successful practice-based learning in higher education. She offers a review of the literature on epistemological beliefs and values in education and uses the analysis to illustrate the historically-derived differentiations amongst sectors and institutions in their practices and pedagogies and the cultures that protect and maintain those practices. This analysis is the used to discuss issues to be faced in bringing the kinds of changes required to be made by and through higher education institutions. In particular, she argues that competing priorities and protected niches in post-school education have produced differentiated sites for learning which maintain diverse cultures but which must now contend with contemporary pressures for more accessible, vocationally oriented and industry-aligned education. The practice-turn in learning (and the learning turn in practice) add weight to the pressure for change in pedagogical privilege in higher education.

Practices in sites are, however, seeped in culture, value laden and traditions are resistant to change … "relatively enduring". Shifting values about how practice and learning interact will require a significant, generative shift in theory and practice in higher education. Recognition of the value of the learning in work and opportunities for softening boundaries between formal and informal sites of learning is required if practice is brought to the fore in productive ways. This awareness about the validity and value of practice-based knowledge in the academy is developing incrementally, but something of the diversity and quality of the advances being made in a range of sites and these developments are identified, theorized and illustrated in the contributions to this book. In this way, the chapter brings together conceptions of knowledge and sites of knowledge production in a model which assists in the analysis of contemporary currencies of knowledge and their production in the education sector.

These first three chapters set out the context, premises for and purposes for the book.

Campbell and Zegwaard provide the first of the next group of chapters. In their chapter, they that draw on examples in higher education practice to explore the development of ethics through practice-based learning. Their investigation focuses on a work integrated learning approach to the development of professional ethics. In their discussion, the authors discuss the interplay between power and agency in the development of critical moral agency within the emerging professional. They conclude that an approach that combines practice-based learning with an explicit critical ethics curriculum supports the development of moral agency in emerging professionals. In this way, they refer to particular kinds of interventions that are required for the practice-based experiences to achieve the kinds of educational goals that warrant the moniker of higher education.

In their chapter, Hungerford and Kench provide a critical discourse analysis of the jostling cultures within and across the provision of health care in the twenty-first century, focusing on the increasing importance of the discourse 'clinical governance' in the dynamic context of the practice and practice development of health professionals in alliance with the academy. The chapter explores how the current trend towards standardizing practice in the health services and academic contexts has shaped the practice-based learning of students of the health professions. The discussion is based on findings of a critical discourse analysis of the standards that frame contemporary health services; and claims these standards are dominated by the science and biomedical paradigms, and infused by the ideology of economic rationalism. Constructed as 'best practice' with benefits that are self-evident, they argue that standardization has served to subordinate humanist and other social justice discourses in the health services and health education including a traditional focus on care, compassion, and personal transformation through learning. Their analysis suggests that the language of business now dominates, with health professionals, health students and also academics positioned to comply—or risk fiscal and associated disadvantage. The authors propose that academics should take the lead and develop an innovative pedagogy for practice-based learning that promotes critical questioning of the structures that support contemporary health services and academic institutions; and in so doing, promote the personal and professional growth

of students. Again, here university educators are positioned as those who are best placed to balance the various demands generated by different cultural interests that are directed at higher education, whilst exercising duty of care to students.

Grealish continues analysis of the role of standards in the regulation of entry to the professions, exploring in particular the design of curriculum and assessment of students within professional learning programs in higher education. She describes standards as boundary objects, spanning the social worlds of government, industry, professional bodies, higher education and vocational education. These objects act to translate industry expertise into curriculum and operate to produce effective graduates for professional roles. In this way, Grealish makes visible the work of translation in universities and workplaces and describes the implications of these standardising technologies in connecting the interests of industry and higher education in the provision of practice-based learning. In the chapter, the author explores constructions of competence and standards, highlighting their continuous (re)enactment in the workplace.

The following chapter builds upon the previous chapter's discussion of standards in practice-based learning, developing theoretical discussion on the structuring role of the artefacts that are designed and implemented to coordinate and standardize practice in the higher education curriculum. Walkington and Williams discuss the interaction of artefacts with each other and their use in constraining variety and in surveillance through practice experiences. The chapter develops the proposition that artefacts are both valuable in support of accountability, risk reduction and staff guidance while also destructive in the restrictions they place on agency and opportunities for serendipitous learning. This chapter unpacks the role of audit as a central controlling method for governance at a distance (Rose 1999) and reveals the issues of power inherent the preparation of a workforce for a productive Australia in a global marketplace.

The next chapter seeks to articulate the relationship between a social phenomenon and change in educational practice through a study of the Brazilian higher education sector. In this chapter, Bispo offers a theoretical analysis of e-learning as an organizing practice, providing insight into the daily and situated social life that enables virtual learning. Five elements of the virtual learning environment (VLE) are developed in this account using a practice-based studies approach to e-learning. These comprise: (a) learning the e-learning "times"; (b) the necessity of planning; (c) the learning of VLE logic and functioning; (d) the learning of communication and interaction through VLE for professors and students; and (e) the development of a competence of teaching through VLE for the professors and the learning for the students. The key claim is that the virtual nature of e-learning higher education offers a new space for creativity and facilitation of student learning, with an understanding of e-learning logic by human social actors. Teachers work to continuously negotiate the context of teaching, juggling the different requirements of multiple cultures in the situated practice of e-learning.

Vitteritti's chapter—Learning in practice in higher education—proposes to extend Lave and Wenger's Legitimate Peripheral Participation (LPP) concept to higher education. It does this by reviewing the concept of LPP by placing the role of nov-

ices and technical materiality at the heart of practice-based learning. A narrated description of the events observed in the laboratory are used to indicate the ways in which novices learn through practice and with others (both human and non-human), emphasizing the idea that in higher education. In particular, the case made here proposes that the transition from experiences and learning in the lecture theatre to the laboratory practice-based learning environment is situated, socio-material and participated. The pedagogy of practice, activated in the scientific laboratory context fosters the co-existence of learning practices and academic interests, producing tension amongst codified knowledge and unstable expertise in evolution, the procedural standards and artisan skills incorporated by both novices and experts. It claims that only by integrating these two types of knowledge and the associated cultures within which they are produced a robust university training and qualification be achieved.

The chapter by Smith, Shaw and Tredennick entitled—Practice-based learning in community contexts: A collaborative exploration of pedagogical principles—addresses the challenge of multidisciplinary learning in the higher education context. It offers a detailed application of practice-based learning strategies. In their chapter the authors offer an analysis of a practice-based learning laboratory that reveals collaboration, interdisciplinarity, complexity and uncertainty, and reflection as pedagogical principles underpinning development of values and practice in a range of disciplines. The chapter takes a community engaged learning strategy that utilised participatory action research (PAR) to illustrate the principles as they are shown to emerge in the activity of students, academics and community partners. The chapter describes how that these partners engage to identify and refine what is required to support students as they negotiate the complexity and uncertainty inherent in problems facing communities, as they collaborate with others from different disciplines and professional contexts and leverage difference as they challenge their own values and practices.

In their chapter, Smigiel, Stephenson and Macleod offer an institutional case study, in which they describe the tensions that arise in the implementation of practice-based learning strategies in the modern university. The authors outline the strategic and operational difficulties encountered in the institution as professional and academic staff struggle to find a priority for practice-based learning approaches. They argue that re-culturing of the university is necessary such that these approaches are valued and rewarded, but that this re-culturation is difficult given traditional university workloads and priorities.

The final chapter offers a commentary on the themes across the contributions to the book, highlighting the central issues and theories and illustrating the complex interrelationships between them, using the metaphor of culture. Gherardi's conclusion suggests avenues for further investigation based on the issues examined in the book and offers some insights on the future of practice-based learning in the academy.

In these ways, the various contributions offer conceptions, insights and illustrations of practices through which practice-based experiences are considered, utilised and integrated within higher education programs.

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Chapter 2
The Practices of Using and Integrating Practice-Based Learning in Higher Education

Stephen Billett

Abstract This chapter commences the discussion that then continues across the contributions of this monograph regarding how practice-based learning experiences (i.e. those in the circumstances of practice and usually outside of university settings) can be utilised and integrated within higher education courses in effective and sustainable ways. This discussion acknowledges that students' learning through engagement in practice-based experiences is now and increasingly seen as being an essential component of higher education programs that are preparing graduates for entry into targeted occupations. The need for informed bases of teaching and learning to meet this demand grows as many of the existing concepts and practices within educational science cannot adequately inform the effective utilisation of students' learning experiences outside of educational programs and institutions, nor their integration. Hence, teachers in universities have to develop and reflexively advance the capacities (i.e. understandings, procedures and dispositions) required for effectively utilising and integrating such experiences. Through doing so, these teachers and their practices can inform others and, in turn, educational science. This proposition, its premises and case is advanced here through a discussion about the nature and contributions of learning through practice, how they might best be aligned with higher education provisions and in ways that are sustainable and effective. It does this by drawing upon the processes and findings of a recent national teaching fellowship that comprised 20 projects that focused on the integration of practice experiences within higher education programmes across a range of disciplines within six Australian universities.

Keywords Affordances · Agentic learners · Cognition · Curriculum practices · Employability · Graduate employability · Guidance · Integration of experiences · Job ready graduates · Learner intentionality · Limits of educational science · Occupational knowledge · Occupational specific education · Pedagogies practices · Practice-based education · Practice-based experiences · Practicum · Student engagement · Time jealous students · Work integrated learning · Workplace experiences

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_2

Practice Based Experiences and Higher Education

This chapter, like the other contributions to this monograph, seeks to inform about how practice-based experiences can be utilised and integrated as part of a wide range of higher education programs. As noted in the introductory chapter and as referred to in other contributions, the provision of practice-based experiences (e.g. workplaces) is now becoming an almost a universal element of those higher education programs whose focus is preparing graduates for specific occupations (Organisation for Economic Co-operation and Development 2010). One of the editors and contributors to this volume refers to the practice 'bandwagon' (Corradi et al. 2010) that is now being jumped upon and perhaps also driven by those from industry, the professions, government and education administrators and practitioners, as well as by passengers such as researchers, teachers and students. Of course, the provision of practice based experiences has long been a part of higher education provisions, and traditions such as co-operative, education, internships, sandwich degrees and more recently, foundation degrees. Yet, whereas once these kinds of provisions were largely restricted to the major professions and key occupations such as in medicine, law, physiotherapy, nursing and teaching, they are now seen as being a necessary element of all higher education programs aiming to develop the kinds of capacities required for students ability to immediately and effectively practice their occupations upon graduation (Department of Innovation Universities and Skills 2008; Universities Australia 2008). Indeed, across a range of countries with advanced industrial economies it seems that there is an increased engagement by professional bodies and industry representatives who are quite consistently requesting particular kinds of learning outcomes (i.e. graduates are having a smooth transition to practice) and also stipulating the kinds of experiences that students need to access and learn from to develop the required capacities to make that these transitions. Central to their concerns is that students need more time engaging with and participating in authentic experiences within the occupational practice that is the focus of their studies and that these experiences should be central elements of the educational program, their assessment and also the accreditation of those programs. The demands of such bodies and their representatives are often supported by government and are consistent with their policies concerned generally with the nation state's economic and social robustness and, particularly whenever employment is a central element, and, more specifically, with aligning publicly funded education provisions to meeting key social and economic goals. Yet, it is not only voices external higher education institutions that are demanding practice-based experiences, as students are also often increasingly keen to engage in these kinds of experiences because they want to develop capacities that will enhance their employability and lead to desirable employment and advancement in their working lives beyond higher education.

It follows, therefore, that there are heightened expectations by and growing interest from sources external to universities in the form of government, professional bodies, industry groups and students that higher education provisions in countries such as Australia, the United Kingdom and Canada and possibly elsewhere that

these provisions will include a range of effective practice-based experiences aimed at enhance students' employability upon graduation. These expectations are also being exercised by students who increasingly are self-sponsoring their higher education and seeking a viable return on their investment. However, despite the generation of these expectations, it is unusual to hear of funding from external bodies and agencies to adequately support the costs of such arrangements, unless there is a particular and pressing priority (e.g. rural medical students, shortage of graduates for the extractive industries). Instead, the exercise of advice and expectations is often best characterised as being all care and no responsibility. For instance, often professional and regulatory bodies stipulate the quantum of practice experiences required for certification or membership, yet without taking any responsibility to assist educational institutions or students within them access and secure placements. Consequently, although imperatives about having such experiences are being proposed and expectations about their contributions and worth are being heightened, the resources for and expertise to ensure their adequate enactment will usually need to be found within higher education institutions, and, increasingly it seems by students themselves. Given the demands to secure these experiences it becomes doubly important that they are used effectively and deployed maximally.

Therefore, this chapter discusses and advances some ways how practice-based learning experiences can be utilised within higher education programs preparing graduates for specific occupations. In doing so, it draws upon the processes and findings of a recent national teaching fellowship program involving 20 projects from across a range of disciplines that were hosted by six Australian universities (Billett 2011a). A key promise for this fellowship was that learning experiences in practice settings are an essential component of higher education programs preparing graduates for their chosen occupations. Yet, how those experiences are organised and enacted, and integrated with the other experiences that collectively comprise students' curriculum is central to the quality of the learning outcomes secured for those students, along with how students elect to engage with the experiences provided in both practice and higher education settings. Indeed, beyond a consideration of curriculum and pedagogic practices, concerns about students' personal epistemologies, their development and enactment are also seen here, as being key educational goals. Moreover, given the complexity of some of these arrangements and need for localised action, it is proposed that those teaching in universities need to develop scholarly teaching practice to effectively engage students with, support that engagements and integrate these contributions arising from their experiences in practice settings. This informing practice is also required because existing concepts and practices within educational science may not always be helpful in guiding the effective utilisation of these kinds of experiences in higher educational programs, including meeting the requirements of the diversity of workplaces in which graduates will be employed in enacting their occupational practice. Therefore, teachers in higher education may need to develop further their understandings about and competence with practices that utilise and integrate practice-based based experiences. Yet, all of this needs to occur in ways that are suitable for their disciplines, educational goals and occupational requirements. As noted, through such developments it

may be possible to inform and extend the current bases of educational science. The case here is made here through considering the nature and contributions of learning through practice, how that relates to the provision of professional education and ways in which the utilisation of these experiences can be sustainable and effective.

The Learning of Occupations Within Practice Settings

The process of learning of occupations through experiences in the circumstances of practice is well and highly proven and has stood the test of time. Across human history it comprises the most enduring, common and sustainable mode of supporting learning for occupations. That is, the family business, community based work or organised workplace setting were the most predominant mode of occupational preparation until industrialisation in European nation states and elsewhere (Billett 2011b). The provision of educational programs specifically aimed at supporting occupational development in Western traditions was for a long time quite limited to a few major professions up until relatively recently. Although medicine, law and sometimes architecture, have been the focus of educational programs in ancient universities in Europe and before them in places such as Greece in Hellenic times (Lodge 1947), all of the other occupations upon which human existence and advancement rely have largely been developed in the circumstances of practice. Moreover, there is much to suggest that the innovations and development of the technologies, processes and practices that that have advanced these occupations also largely arose through activities in practice settings (Epstein 1998). So, it is the case that practice-based learning experiences are largely those that have brought humanity to this point of its development. The point here is that the development of occupational competence and the generation of new ideas and responses to emerging issues have not depended upon specialised programs within educational institutions or research within universities. Instead, the development of occupational capacities across millennia and the advancement of the knowledge which is utilised in those occupations has arisen through practice-based experiences and through individuals learning by engagement in those experiences (Greinhart 2002).

It is also noteworthy that learning through practice has long been held as being highly valued, often even more so than expediencies in educational settings, which have been seen by some as being at best substitute for actual practice. Anatomy classes, for instance, were introduced into medical training in Hellenic Greece because medical students or novices were unable to secure the kinds of medical experiences that provided the required level of understanding of anatomy (Clarke 1971). Before their introduction into the university medical curriculum, these experiences had been provided through these novices working alongside more experienced doctors as they performed various procedures and operations. However, in circumstances curiously reminiscent of those in present times, the lack of access the adequate range of experiences to develop an understanding of anatomy led to the need for substitute experiences being enacted in the educational institution. Moreover, it

seems the advent of the textbook was also a product of this lack of opportunity for these students to learn from more experienced practitioners and knowledge of medicine in the circumstances of practice (Clarke 1971). Perhaps surprisingly to many, textbooks were apparently introduced as a means to capture and codify the medical knowledge that doctors possessed and which was having difficulty being accessed adequately by novices and students because of limits in their access to practice experiences and close engagements with experienced practitioners. Furthermore, the broader provision of occupational specific education is relatively recent. Only since the various industrial revolutions in Europe and elsewhere and the formation of modern nation states brought about needs for vocational education provisions and the development of the skills of a far wider range of occupations within universities, which grew in size and scope accordingly (Billett 2011b). It was the demise of the family businesses, often referred to as 'cottage industry', through the processes of industrialisation and that had been so generative of the development of occupational skills which necessitated the development of a broad range of educational provisions to generate skilled workers with the depth of skills and the numbers required to sustain growing and competing industrial economies (Gonon 2009).

Yet, are such historical accounts relevant and helpful? It is sometimes suggested that the requirements of modern workplaces are no longer of the kind which can be accommodated by learning through the circumstances of practice. There is likely to be some truth in this proposition, particularly given the kinds of knowledge required for much of contemporary work and these forms of knowledge being difficult to experience and access and, therefore, learn (Martin and Scribner 1991; Zuboff 1988). However, on its own terms, there is no reason why conceptual knowledge cannot be learnt through practice settings. There have always been forms of these kinds of knowledge that individuals have had to learn, albeit perhaps in a less abstracted forms than in current times. However, there are forms of knowledge and means for the learning of that knowledge are probably best addressed within intentional experiences in educational institutions and through organised experiences for students. Examples of these include finding ways to understand the canonical concepts and propositions associated with bodies of professional or other knowledge that may not be explicit or easy to engage with in practice settings (as in anatomy, the workings of a computer, vector factors and formulate). Further, there also may be the need to develop sets of understanding and practices that reflect something of the diversity of circumstances, values and practices associated with the enactment of occupations. This is because occupational practice when manifested in particular circumstances and the meeting localised needs inevitably has diverse goals and processes (Billett 2001). Moreover, understanding the kind of ethical considerations for professional practice might best be undertaken initially within an environment that exposes learners to a range of considerations associated with them prior to these learners having access to the operation of those practices in a particular workplace setting. So, clearly there is a need to consider the kinds of learning that are unlikely to be secured through experiences in the circumstances of practice and for other arrangements to be made to support that learning.

Conversely, the preparation of occupational skills within educational institutions alone is rendered very difficult because the experiences (i.e. activities and interactions) provided in such settings are quite distinct in terms of their goals, procedures, imperatives, and bases of evaluation from those in authentic circumstances in which those occupations are practised (Raizen 1991). Further, the requirements for learning effective occupational practice is more than simply understanding and being aware of contextual factors. Recent accounts of learning emphasise the importance of the learning being informed and enriched by the range of environmental factors that shape and mediate the nature of human performance (Barsalou 2009; Billett 1994; Brown et al. 1989). Put simply, learning how to nurse a patient in a mock hospital ward using other students as pretend patients and engaging in pretend procedures, is not just a poor substitute for authentic engagement in nursing activities, it fundamentally lacks the physical and social context in which these activities are enacted, which shape how this work is performed, what constitutes effective performance and how that is to be judged by others as well as the norms of the workplace in which it is enacted. In part because of these limitations, concerns have arisen across a range of occupations that higher education graduates are not able to enjoy a smooth transition to practice the occupations for which they have been prepared (Department of Education Science and Training 2002; Department of Innovation Universities and Skills 2008; Universities Australia 2008). Therefore, it follows there is growing interest in providing higher education students with practice-based experiences that can be generative of these kinds of capacities and will assist them be able to practice more effectively upon graduation. So, although the provision of experiences in the circumstances of practice can be seen as merely responding to an external request to prepare 'job ready' graduates, there is also a concern that educators must organise appropriate experiences for their students to develop the capacities to actually enact the occupational tasks for which they are being prepared.

Yet, amidst a consideration of the requirement for university students to be job ready on graduation, it is necessary to be reminded that the expectations now being directed towards higher education programs by industry, professional bodies and students are very difficult to fulfil. It is one thing to be able to prepare graduates to possess the canonical concepts and practices required for occupational practice (i.e. those that every practitioner would be expected to be able to know and do) as stipulated by a professional body or regulatory agency. However, it is quite another to be able to prepare graduates for the particular requirements of workplaces which may not be known until the time when they find employment within them. The point here is that occupational practice and the requirements are reflective practice are as diverse as the circumstances in which it is enacted. While the canonical principles and practices that underpin the occupation inform the nature of performance in practice settings and how it should be proceeded with, the actual requirements for securing effective practice are quite diverse across practice settings, often for very good reasons. So, each of these circumstances, have their own range of complications, variations and specific requirements. Yet, these are very difficult to predict or know about without understanding the range of contextual factors and the requirements of the circumstances in which they are to be practised. So, teachers in higher education

are confronting a difficult and demanding task associated with preparing graduates who can smoothly engage in and become immediately effective in practice settings, which often cannot be known about before the graduates are employed.

Yet, it follows here that it is important for these teachers to develop a scholarly practice directed towards developing students' capacities both in this way within their own teaching and through supporting their engagement in and assisting them reconcile their experiences in practice settings. One reason for teachers to develop these kinds of capacities is that educational science may not be particularly helpful in informing about how learning experiences outside of educational institutions might best be organised and enacted.

Constituting Effective Educational Provisions and Practices

There are good reasons why those teaching in higher education may need to develop a more informed scholarly practice about utilising and integrating practice-based experiences within their programs. These reasons are at least six fold and have been largely brought about by a lack of development within educational science.

Firstly, educational science and informed practice of education are still in their relative infancy. Unlike many other disciplines, this science is relatively recent and nascent and is not the product of sustained enquiry over a long period of time. For instance, educational psychology as a field that might be expected to inform how learning arises across different settings is still relatively new with its foundations only extending back to the 1930s. Also, the majority of the work in this discipline has focused upon the education of children and their learning and development. Much less emphasis has been placed upon adults learning and development. Moreover, understandings about curriculum and pedagogic concepts and practices are still relatively immature. Certainly, the work that been done in this discipline is also very much premised upon what occurs within schools and through schooling. Little attention has been given to considerations of curriculum in practice settings, for instance (Billett 2006). All of this is perhaps not surprising, because the disciplinary knowledge associated with these practices is still relatively nascent. Tyler's book on curriculum which is often seen as being a seminal text on curriculum and curriculum development was first published in 1949 (Tyler 1949). In addition, key journals in the field such as the *Journal of Curriculum Studies* had its first issue only in 1967.

Secondly, the understanding and accounts of the knowledge to be learnt through educational programs and the processes through which this knowledge is learnt are still the subject of much debate and, changing views and emphases. So for instance, taxonomies of knowledge advanced by Bloom (Bloom et al. 1956) in the late 1950s have been overturned and transformed by findings from cognitive science within the 1970s and 1980s. These changes are quite fundamental and, in particular, have

a range of implications for the kinds of procedural learning that is important for occupations. Whereas Bloom et al referred to these as psychomotor skills, more recent accounts from the expertise literature present these as being a set of procedures that have dimensions of specific through to highly strategic procedures that are analogous to higher orders of cognitive thinking under Bloom. Yet, such is the purchase of Bloom's taxonomy that it can be found as being the foundation which is used for identifying the goals to be learned for occupational practices in contemporary times.

Thirdly, the means by which the knowledge required for occupations is to be developed (i.e. learnt) has also transformed, including considerations of what has been referred to previously as transfer. Previously, there were strong beliefs about the development of highly transferable concepts arising from programs in educational institutions which would then be adapted (transferred) to particular circumstances of practice. However, current accounts suggest that quite the opposite approach is required for adaptability to occur. That is, rather than the transfer of knowledge being top-down with canonical occupational knowledge being applied confidently to different circumstances, instead the capacity to adapt is premised upon adapting that knowledge to the particular requirements of the particular circumstances where human performance is required. Lave (1988) reminds us that the process of adaptability is not analogous to a frog leaping from lily-pad to lily-pad to catch the fly (i.e. achieve the goal). The central point here is that the processes being labelled as transfer comprises a process of experiencing something, making sense of that experience, and then responding to it (i.e. perception and action), albeit in ways described as dis-embedding and re-embedding or de-contextualising and re-contextualising from situational experiences, not the application of profound canonical knowledge. To put it simply, we have moved the situation where it was suggested that higher-order capacities could manage the process of transfer through to a situation in which it is suggested that localised knowledge and understandings of contacts, circumstances and requirements is likely to be necessary for effective adaptability. All of this shapes how we prepare students to engage in the particular instance of practice that they encounter upon graduation.

Fourthly, many of the concepts that commonly inform educational practice remain underdeveloped. In particular, current distinctions between theory and practice, and the divide between them that is frequently mentioned in relation to the inadequacy of experiences and educational settings and the need for those in practice settings are still largely based on the idea that theory (i.e. conceptual knowledge) is learnt in classrooms and practice (i.e. procedural knowledge) is that which is best developed in the circumstances of practice. However, these very premises are quite erroneous. Individuals learn concepts, propositions, causal links, and factual knowledge (i.e. theory) across different kinds of settings, including workplaces (Billett 1994). Then, the learning of how to do things (i.e. procedural learning) which is analogous to the term 'practice' also arises within educational settings as it does within settings where people engage in practice and applying knowledge in ways that secure goals. Consequently, important premises such as these that are used as part of the everyday educational discourse in higher education, by external institutions and agencies and which are used to shape and inform considerations of the

quality of provision of learning experiences in practice settings and their integration within higher education programs. It follows therefore that these kinds of conceptual foundations may not be helpful in adequately addressing how best to utilise and integrate different kinds of experiences within higher education programs.

Fifthly, there still remains considerable uncertainty about what kinds of experiences are generative what kinds of knowledge. That is, if there are particular forms of knowledge which need to be learned for people to practice occupations effectively (i.e. domain specific conceptual, procedural and dispositional knowledge), these forms of knowledge need to be identified and consideration given to how best these kinds of learning is can be secured. Clearly, the kinds of learning that are derived from sitting in a lecture theatre listening to a lecture and observing images as part of a presentation will not lead to the same kind of outcomes as when students are engaged in activities within practice settings. It is not a simple question that one is good or bad, because as stated above, there are particular strengths and limitations to experiences in both practice and educational settings. More importantly, there needs to be a greater alignment between the kinds of knowledge which need to be learnt and the kinds of experiences that are provided across higher education programs and within both educational and practice settings. Consequently, it is difficult to proceed with any confidence with particular pedagogic strategies or the sequencing of experience in practice-based settings unless these are informed about the ways in which the particular experiences which are selected for students are generative of the kinds of knowledge which need to be learnt. Moreover, we need to be mindful that the kinds of knowledge which are required in contemporary workplaces may not be the same as in earlier times and the kind of frameworks were used to understanding it in the past may now be inadequate. As Scribner informed a quarter of a century ago

> … new cultural means are being elaborated at an accelerating rate in industrialised nations. Hardly have we approached the problem of understanding the intellectual impact of the printing press, than we are urged to confront the psychological implications of computerisation (Scribner 1985, p. 138)

Sixthly, as noted the focus of much of the efforts within educational science are not well aligned with informing about how younger or older adults learning in and across settings outside of educational institutions. Instead, its efforts have largely been directed towards the education of young children and in schooling settings. Indeed, educational science seems rather confused in its engagement with consideration of learning anywhere other than educational institutions, which it often uncritically privileges over other settings. Learning in the workplace settings is often referred to as informal, ad hoc and non-formal forms of learning or education, for instance. Yet, such a set of descriptors is neither helpful, accurate or are likely to provide the bases for informing effective educational provisions that would utilise and integrate these experiences to assist students become able to practice their occupation in particular settings beyond graduation.

Consequently, given these limitations, it is important that teachers develop their own scholarly practice which informs how their teaching and learning progresses

and how, they provide, enact, enrich and evaluate experiences in practice settings and then seek to integrate those with students' experiences within the overall course curriculum.

Towards an Effective Integration of Practice Experiences

To propose how students' experiences in practice-based settings might best be integrated with other experiences within higher education programs, the findings of an Australian national teaching fellowship (Billett 2011a) are drawn upon here. This Fellowship comprised 20 projects across a range of academic disciplines that each sought to enrich higher education students' experiences through the integration of their experiences in practice settings. The findings from these reports are used to propose means by which teachers in universities can both engage in practice-based scholarly work and be informed how to proceed to effectively integrate those experiences. Through those projects, individual or teams of university educators used a range of approaches in attempt to enrich students' experiences and then appraised the outcomes of those efforts. Subsequently, through considerations and evaluations of their projects, much was learnt about how provide those experiences to often large cohorts of students, and what kinds of curriculum and pedagogic practices might be planned for and enacted to aligned with when securing effective integrations, and in ways that are sustainable. Below some findings are provided in summary about the different array of options for providing practice-based experiences. Following this, some pedagogic practices that support the integration of students' experiences across educational and practice settings are advanced as means of achieving these kinds of outcomes.

Providing Practice-Based Experiences

Often, a single model of providing students' access to practice-based experiences is proposed when considering how best to meet the kind of educational purposes outlined above. These are supervised placements in which a student is assigned to activities in a workplace and is directly supervised by a more experienced worker. However, whereas supervised placements are perhaps essential when dealing with sick people (i.e. in nurse and medical education situations) or young children (i.e. for school teacher development), they are not always required or are applicable in other fields. Organising, supporting and funding supervised placements can be extremely resource intensive (i.e. high cost). As the need for provisions of practice-based experiences increases and for a wider range of occupations, and a greater percentage of students, the resource implications of providing students in all programs with supervised placements grow and become enormous. Moreover, beyond issues of resourcing alone, these kinds of experiences may not always be the most

effective means of supporting student learning in practice settings for all occupations. Therefore, and with a consideration of generating sustainable practice, it is worthwhile considering options other than supervised placements for providing authentic experiences. Options include utilising students existing or past employment experiences, engaging in work activities associated with the chosen occupation and, also indirectly.

Many higher education students are already employed in and work in the occupational fields for which they are being prepared. That employment can provide a set of authentic workplace and occupational experiences that are of the kind that can meet a range of purposes such as engaging in, appraising and comparing practice experiences. So, alignment between the students paid work and their occupation, that practice-based experiences might be capitalised upon and these are available freely to the student, do not require any organisation on the part of the higher education institution, and are well aligned with the students' program of study. Similarly, using students' paid part-time work can also provide experiences which can inform their studies. Although this option will be more or less applicable to the specific discipline they are studying, this paid work experience may well serve as a useful basis for informing in either a general way about the nature of working life, or can have more occupationally specific applications. For instance, students' engaged in business and commerce courses, many of whom are engaged in paid part-time work can use their paid part-time work experiences to understand more fully practices associated with their degrees, such as marketing, supervision, business management, human resource management, interviewing etc. Of course, this will not work for all occupations, but again it offers a set of work experiences in which students are engaged and authentically as employees and which do not require much in the way of organisation by the educational institution. An associated issue here is that students who are engaged in paid part-time work as well as their studies are often quite short of time: they are time jealous (Billett 2011a). Therefore, using their paid work experiences as a platform to understand aspects of their chosen occupational practice may well be a better option for the management of their time and resources. Then, there are also the opportunities provided by observing occupations in action. For instance, law students used to attend court proceedings to understand court processes and also the performance of legal officers. This kind of observation was then followed by a structured experience to help understand and reflect what had been observed. Similar kinds of experiences might be applicable in other occupations and, importantly, do not require the resourcing necessary when supervised placements are enacted. Also, some students have had extensive work experience before they came to higher education, and these experiences may well constitute an effective resource for them to draw upon and engage with the content of their programs. For instance, many postgraduate students and older adult students in higher education are either currently employed or will have had access to these kinds of experiences earlier and these can be used as a platform of experiences to augment those afforded in the educational institution. There are also other opportunities that arise from substitute for simulation type activities which can be helpful. For instance, some aspects of work performance are very difficult to access and,

not always desired. So, for example, managing confronting customers or clients or situations can be prepared for through substitute or simulated activities that can assist students develop the requirements of occupational practice which are best not learned in the circumstances of practice.

Of course, these options will be more or less applicable to the program's outcomes depending upon the discipline, the circumstances of practice and the kinds of opportunities that are available for the students given their location, contacts and resources. The point here though is that there are other and sustainable options for providing practice-based experiences than through supervised practicums. However, regardless of which particular option is adopted it is likely that there will need to be actions on the part of teachers to fully utilise the learning potential of these experiences and students' learning within them and then for them to integrate that learning into the overall course provision. Consequently, in the next section, some consideration is given to the kinds of pedagogic practices which teachers in higher education institutions can enact in order to enrich and secure an integration of students' experiences.

Pedagogic Practices for Integrating Practice Experiences Within Higher Education Courses

In the fellowship mentioned above (Billett 2011a), and an earlier smaller scale fellowship (Billett 2009) identified three key and identifiable moments when teachers in higher education can enrich students' experiences in practice settings and also assist their integration within their courses of study. These moments are: (a) before, (b) during and (c) after the students' practice-based experiences. Discreet purposes and processes were identified for each one of these three moments and these are outlined briefly here.

Before Practice-Based Experiences It was found across these projects that before students went to and engaged in practice-based experiences and settings, it is helpful to: (i) orientate them to the requirements for effectively engaging in the practice setting and the occupational tasks they were likely to have to undertake; (ii) be clear and explicit about the purposes of their participation and the responsibilities that they had, and which others have towards them; (iii) prepare the students to be active and engaged in their work activities and as agentic (i.e. proactive and engaged) learners during those experiences; (iv) provide them with any procedural capacities (e.g. specific skills) that they might need during that practicum and also (v) prepare students for any contestations or confrontations they may encounter in the workplace settings, including suggesting how they might come to respond productively to such experiences. So, much of the focus here is associated with enhancing the readiness of the students to participate in the practice settings in ways which are aligned to achieving the kinds of goals which are intended. Part of this preparation is also associated with developing their capacity to be active and engage learners (i.e. agentic learners). This is particularly important because, on the one

hand, the students will find themselves in situations where largely it will be their own efforts in engaging in activities and interactions that will come to constitute the richness of the learning process and outcomes for them. It is not a teacher-led process, but rather one that the students need to lead and take responsibility for. On the other hand, this capacity to be agentic and self-monitoring is an attribute required of professional practitioners across their working lives. This is one of those kinds of attributes that transcends the specific domain of expertise and is a requirement for ongoing professional practice and learning across working life.

During Practice-Based Experiences It was found that it is important for the students to: (i) engage effectively with and be guided by more experienced workers and thereby learn through and from them; (ii) to identify and engage with effort any activities that might be seen as being particularly helpful to their learning (i.e. pedagogically rich activities); (iii) find ways of engaging with peers and use these interactions to inform, consolidate and extend what they are learning in their practice experiences; and (iv) engage actively and purposefully during these experiences to maximise the learning potential of the opportunities afforded them in these practice settings. The common thread here is about learner action and agency and the students taking responsibility for managing their participation in the practice setting and, as a consequence, their learning. So, again, we need to be reminded here that during these practice-based experiences much of the quality of the learning will be dependent upon the students' personal epistemologies that include their capacities and also their intentionalities associated with engaging intentionally in learning during these experiences. Consequently, the kind of preparatory work undertaken before students engage in their practice-based experiences is essential.

After Practice-Based Experiences When the students have completed their practice-based experiences is important that they have an opportunity to share what they have experienced and learnt with others. It was found an important to bring groups of students together so that they can share their experiences and learn from each other's. More than learning about variations in the occupations in which they participated, which is important for them to appreciate and understand about, these experiences open up other options and also can assist those whose experiences were not particularly positive or productive secure good learning outcomes. Further, through these processes of sharing, when students have had negative experiences they were able to share and learn from others and, in many instances appreciate that the problems they had encountered were not theirs alone. Others have had either similar or contrasting experiences all of which helped explain what had happened to them and what they had encountered. This process of bringing the students together is also helpful as it permits them collectively to identify links between what they had been taught in their programs and what they had experienced in the practice setting. Oftentimes, this may not be always apparent and may even need to be drawn out by the intervention of an educator. This kind of guided process was found to also assist them reconcile the experiences across the two settings and to identify and realise the worth of contributions from both settings. For instance, there is a tendency for students who have returned from experiences in practice settings to claim

that they learned more during those experiences than in the entire degree program. Such claims probably reflect more about the impact of the immediate experience and emphasise the need for students to exercise reflexivity and criticality more generally in reconciling and appraising what they experience.

Furthermore, through sharing and reconciling experiences students have had in the two settings and with this reconciliation being guided carefully there is the prospects of securing the kinds of learning the students need that allows them to understand the importance of contributions from both settings in assisting them be able to learn and practice. It was also found that opportunities to share experiences assisted students appreciate that their experiences and approaches to work are in many ways subjective, rather than being wholly dependent upon the situation. That is, there are values and mores as well as technique associated with effective occupational practice and this is revealed in their considerations of the experiences they had and what they see as being productive and positive is not always shared across the cohort. Finally, these opportunities to come together and share experiences often permit criticality of productive kind, rather than a negative kind, when individuals are processing unsatisfactory or confronting experiences. The opportunities to share, comment upon and elaborate others and one's own experiences can lead to productive experiences and outcomes. One particularly important aspect of the outcomes of these post-experience meetings is to assist students to realise that there are different premises by which their chosen occupation is enacted, goals for that enactment and acknowledge that there are quite different bases deemed as being effective.

Perhaps not surprisingly, the importance of these post-experience reconciliations was identified long ago within higher education. Early in the history of the co-operative education movement in North America, those implementing it realised it was necessary to capture, share and reconcile with the programs' intended educational goals the experiences the students had been having during their co-op placements. Hence, the co-op seminar was introduced for students as they returned for their practicum experiences (Grubb and Badway 1998). These seminars sought to engage students in making explicit links between their experiences and their program goals, to identify learning that where of general applicability and a set of concerns about the broader outcomes of development for the learners. Such processes are sometimes included in net education programs. However, they were shown to be effective within this project in areas such as journalism, public relations and chiropractic. Seemingly, there are no barriers to the occupational preparation which could not benefit from students having such experiences.

A key element of the pedagogic practices outlined above is that they were intended and probably are in fact sustainable and realistic within the contemporary higher education environment. That is, they are the sorts of practices which can be enacted by busy academics and without reliance upon additional support from their university. Instead, they constitute a set of practices which individual or groups of teachers can implement and in doing so engage students in processes which assist them become effective agentic learners, which is one quality they ultimately need to practise.

The Practices of Practice-Based Education

It has been proposed above that practice-based learning experiences are likely to be essential mail for the majority of higher education students. Consideration of the worth and enactment of these experiences needs to be considered in the context of their own purposes, worth and legitimacy. Simply because they are not experiences to be had within the educational institution, closely monitored and shaped by teachers and outside the direct control of the curriculum, these experiences are seen to be less valuable than those had within the higher education institution. What is important is that these experiences have the potential to provide outcomes of the students which are quite distinct in many ways from those that are afforded with educational institutions. So, they are complementary to what experiences are being had within the higher education institution as well as being essential in their own right. Of course, not all of the learning that will arise through these experiences would be seen as being desirable, or appropriate. Moreover, as indicated throughout, there is a greater dependency upon the student as a learner who is able to engage independently and direct and manage their own learning in these circumstances. That, in some ways, is necessary because it is very much a student rather than teacher led learning process. Nevertheless, to maximise the learning, utilise the experiences and secure effective learning outcomes it may well be necessary for teachers in higher education to engage in processes that prepare students for these experiences (i.e. before practice-based experiences), ensure that student readiness extends into effective practice and learning during those practice-based experiences and then importantly, have activities within the educational setting in which the students come to share, compare and reconcile their learning experiences and those of others.

In closing, it is important to be reminded that the ideas presented above about pedagogic practices were those that were developed through scholarly engagements by busy academics working with their students and in their programs. Indeed, these ideas arose from a group of such higher education teachers seeking to enact and refine particular sets of experiences for their students, considering the consequences of those enactments and also appraising the worth of what they did, and the consequences for their students. It was not always easy or straightforward but, these ideas arose from considered engagement by academics with teaching related issues they were addressing within their courses. Together, what they propose a helpful set of principles and practices which are applicable in different ways within higher education programs. Whilst dealt with in overview here, a more fulsome consideration of these ideas may well be helpful for informing practice (Billett 2011a). Yet, there is another important finding here, and that is that it was through these projects that the teachers came to develop their capacities and share their insights in ways that they reported informed and developed their practice. Hence, this suggests that there are real possibilities for higher education teacher development that model the very processes of practice-based learning experiences that universities provide for their students.

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Chapter 3
Knowledge Claims and Values in Higher Education

Monica Kennedy

Abstract The integration of practice-based learning experiences in higher education is somewhat problematic—traditional ideas about what knowledge is, where is resides, how it is justified and its relative certainty and simplicity are at odds with the notions of practice-based knowledge. Practice-based knowledge is recognised to be personal, contested, contingent and reliant upon individual meaning making while university traditions have built on the assumption that knowledge exists as discrete facts developed distributed and institutionalised in good research by expert authorities.

This chapter highlights the role of personal and institutional epistemological theories in the perpetuation of traditional curriculum in the academy and in so doing, goes some way to unravelling the reasons behind resistance to practice-based approaches in the sector. The validation of a wider definition of 'what counts' within the academy can act to reduce the concerns about the changing role and nature of HE in the contemporary, knowledge intensive world and invite HE institutions to come to recognise that they are not the sole arbiters of knowledge or the sites of its production. The status of epistemologies based in assumptions about the certainty and simplicity of knowledge and its justification in expert opinion, is eroding in response to contemporary issues, and knowledge which is complex, developed and validated in practice is increasingly recognised within and across sectors as vital for institutional performance and the development of graduates appropriately prepared for the modern world.

Keywords Practice-based learning · Epistemology · Learning and knowledge · Higher education pedagogy · Sectoral differences

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_3

Practice-Based Learning and Epistemological Difference

The ways that we understand what knowledge is and how it is developed is intimately tied up with the ways that educational systems produce and recognise it. Epistemological differences underpin disciplinary and sectoral distinctions in pedagogical and research design and practice. In this chapter, the bases upon which knowledge is understood and validated in higher education is analysed and discussed. The chapter introduces a typology through which epistemological differences are illustrated and compares these differences across traditions in higher education practice.

'What counts' as learning and knowledge within educational institutions has entertained theorists and practitioners alike for decades (Gallacher and Feutrie 2003, p. 79). Issues of quality (Houston 2008), conceptions of curriculum (Fraser and Bosanquet 2006) and of pedagogy (Oval 2003), expectations of the role of higher education (Lomas 1997), and of vocational education in contemporary society each contribute to modes of legitimation (Maton 2000) of educational knowledge.

Recent preoccupations with the integration of work and learning in the higher education curriculum (Billett 2009; Boud and Solomon 2001) (as opposed to long-held traditions in this regard in vocational education) (ANTA 2000) have inspired a reconsideration of the role of higher education institutions. While the value of integrating work and learning through structured Higher Education work experience programs is widely recognised and theorised (Billett 2006; Boud and Solomon 2001; Symes et al. 2000), there is relatively little exploration of what these differences are and how the different ways that understandings of knowledge impact on the practice and experience of the practicum experience. If Higher Education is about the development and dissemination of knowledge that is validated by good research, how does practice-based learning fit? How can knowledge that is internally validated by learners through meaning-making, based on a person's (or group's) evaluation of evidence or reasoned justification, tentative and contested and complex, continent and relative, be credible within such an environment? The legacy of Higher Education is a narrow epistemological stance that is structured in ways that trivialise practice-based knowledge and learning.

In this chapter Hofer and Printich's (1997) construct of epistemological theory is used to articulate this problem of traditional and differential knowledge claims within the sector and describe the relationship between these claims. We observe a shift in which the privileging of intellectual fields within disciplinary areas in higher education is in conflict with contemporary pressures for increased university performance (Alexander 2000), interdisciplinary (Brint et al. 2009), problem-based and professionally oriented education. These pressures work to invite a shift that has the opportunity to broaden the role and scope of HE providers, so that more epistemologically inclusive conceptualisation of 'what counts' as knowledge (and what is seen as legitimate learning) are able to be introduced with legitimacy in the academy.

Knowledge Claims in the 'Practice Turn'

The relationship between knowledge claims and education and organisation is an active area of research (Cook and Brown 1999; Hartels et al. 2006; Hofer 1999; Kelly et al. 2000; Paavola and Hakkarainen 2005). While the terminology is contested and rather dense, discussion of knowledge claims (or epistemological beliefs, theories, postures, stances, resources or ways of knowing (Hofer and Pintrich 1997; Niessen et al. 2008)), provides an important opportunity to investigate the bases upon which knowledge is validated and privileged. Given the nature of the topic, it is unsurprising that consensus on the labelling, boundaries and definition (Hofer and Pintrich 1997) of the construct through which personal and collective epistemologies may be explored has not yet been achieved.

A number of substantive theories about the characteristics and dimensions of personal epistemological theories have been developed and tested over the past half century. While these adopt differing metaphors in their representations (positional and developmental (Perry 1970 in Hofer and Pintrich 1997), material (Kelly et al. 2000), vocal (Belenky et al. 1986 in Hofer and Pintrich 1997), or active (Lave and Wenger 2000; Wenger 2004)), they each contribute to what is now a rich resource informing discussion about the ways in which individuals conceive of the bases of knowledge and the nature of knowing (Hofer and Pintrich 1997, p. 119).

Generalised differences between individual, disciplinary and sectoral epistemological beliefs have long been the subject of inquiry and theorising. The treatment of epistemological beliefs is sometimes criticised as being 'static and mechanical' (Niessen et al. 2008, p. 27), but at the same time, contemporary perspectives provide postures of knowing and knowledge that are presented as fluid and 'enactive' (Niessen et al. 2008). At the focus is an understanding that epistemological beliefs underpin the ways that that learning is conceived and enacted by students, the role of the teacher in the act of learning, and the ways that knowledge is manipulated in preparation for student learning (these priorities are evident, for example, in Hartels et al. 2006; Hofer 1999; Hofer and Pintrich 1997; Niessen et al. 2008; Paavola and Hakkarainen 2005).

Hofer and Pintrich's comprehensive (1997) review of the research on epistemological theory and research in education leads them to propose a construct of epistemological theory which is limited to '…individuals' beliefs about the nature of knowledge and the process of 'knowing' (p. 117). Whilst defining the construct they also acknowledge the links between individuals' personal theories of knowledge and its development and learning and teaching. The Hofer and Pintrich construct may be represented as two (epistemologically aligned) continua in each of the two core areas—the nature of knowledge and nature of knowing. The four continua are illustrated below in Fig. 3.1:

This figure suggests that the nature of knowing and the nature of knowledge can be understood in different ways, and that these ways exist on a continuum from those that acknowledge one knows because on is able to witness evidence that demonstrated by experts to those that acknowledge that one knows when one makes

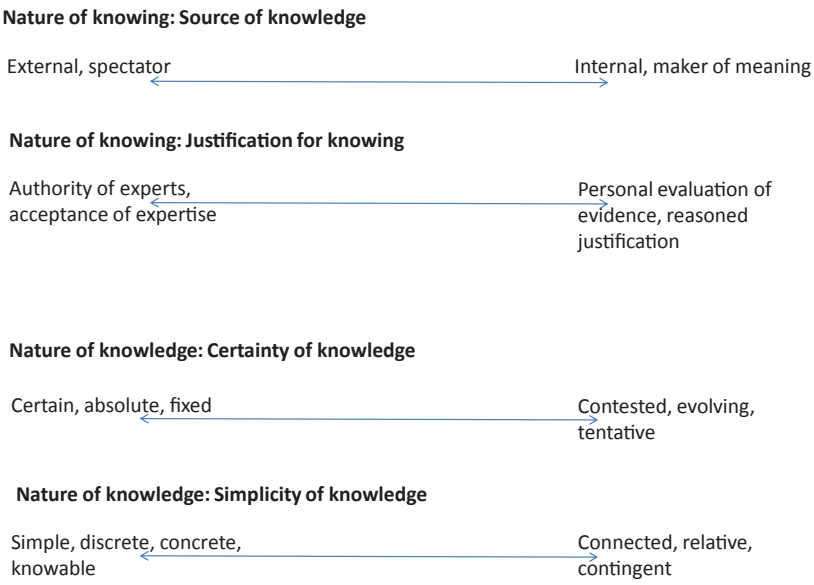

Fig. 3.1 Dimensions of epistemological theories—from Hofer and Pintrich (1997)

sense of information and is able to evaluate is and justify what is known through reasoning. The figure also illustrates the ways that knowledge is defined, either as something fixed, certain and reliable and which can be represented in simple, discrete facts or (at the other end of the spectrum) as something that is quite tentative, that may be challenged, or that may change and develop. Knowledge in this understanding is contingent and reliant upon that with which it is connected.

The epistemological theories construct, while developed in reference to individuals, can be used to inform discussion about the various claims that underpin and constrain practice in educational institutions. The construct allows consideration of the various ways in which academic practice has traditionally produced and reproduced knowledge within a particular domain. Through this typology it is possible to locate discussions about the fundamental nature of knowledge in discussions of learning, of learning at work and of learning in HE.

Hofer and Pintrich's representation of epistemological theories provides a plausible explanatory foundation from which to advance discussion of the relationship between epistemology and the implementation of practice-based approaches in the academy. It invites consideration of the relationships amongst epistemology, pedagogy and institutionalised resistance to practice-based approaches in the academy. These dimensions sit comfortably alongside Gibbons et al.'s (Gibbons et al. 1994) notions of Mode 1 and Mode 2 knowledge because of their common representation of epistemological differences underpinned by the relationship between the way that knowledge is derived and applied. Gibbons et al. differentiate between traditional forms of knowledge produced through problems set and investigated within the academy using 'good science' (Mode 1 aligned with the left hand side of the

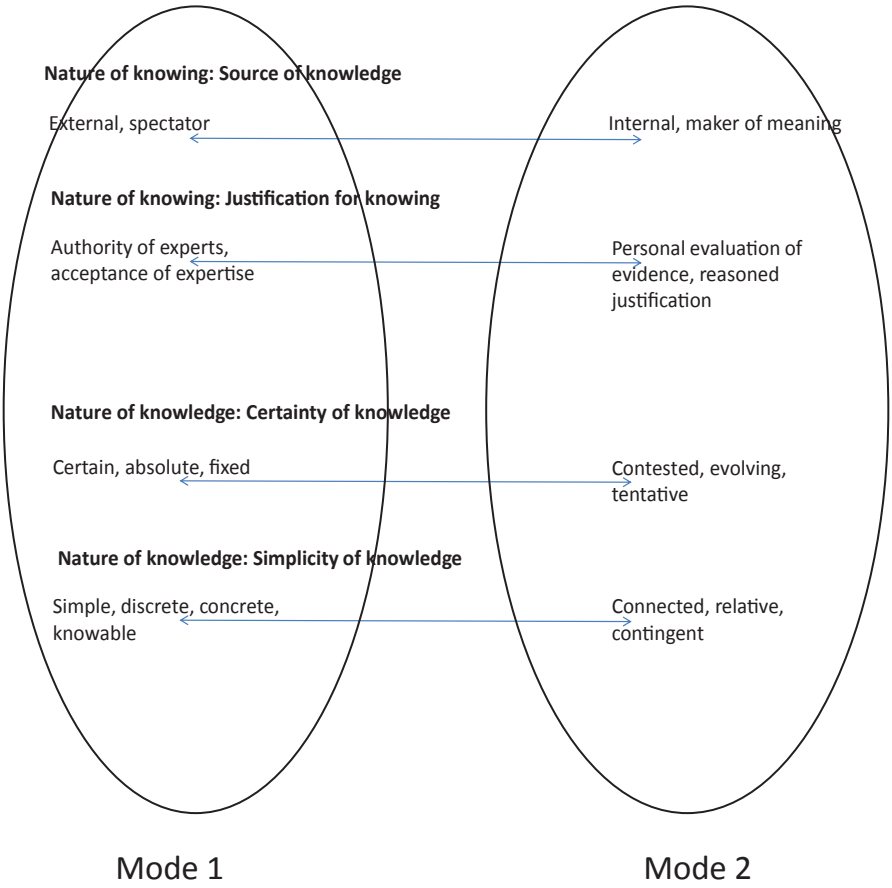

Fig. 3.2 Aligning the nature of knowing and knowledge with Gibbons et al. Modes of Knowledge

Hofer and Pintrich construct) to a new form which '…operates within a context of application in that problems are not set within a disciplinary framework…[which require] the close interaction of many actors…[and encompass] a wider range of criteria for judging quality' (Mode 2 aligned with the right hand side) (Fig. 3.2).

Similarly, the Hofer and Pintrich construct may be used to investigate further the Biglan-Becher (Neumann 2001) typology of disciplines which identifies four disciplinary variants (hard-pure, science; hard-applied, technologies; soft-pure, humanities and social sciences; soft-applied, professions based in the social sciences). The hard-pure domain aligns with the left hand side of the Hofer and Pintrich construct while the soft-applied aligns along the right. These relationships are discussed further in the next section of this chapter.

The practice-based learning 'bandwagon' assumes an epistemological posture aligned with the right-hand side of the Hofer and Pintrich construct. Based, as it is, in conceptions of 'experiential learning', the practice lens (Corradi et al. 2010)

highlights the connectedness (Piaget 1954 in Stevenson 2000) of knowledge, its production within (and between) individuals, the evaluation of truth claims in terms of relevance, situation and value (Lave and Wenger 2000). The epistemological assumptions inherent in socio-cultural and situated-learning theory (evident in COP work) align along the right hand side of the typology (knowledge contested and connected, knowing internal and based on justification of beliefs). Activity systems (Engestrom 2001eg.),, experiential learning (Kolb 1984), incidental and informal learning (Marsick and Watkins 2001), and the constructivist view of learning (Bromme and Tillema 1995) similarly represent knowledge and knowing in terms aligned with dimensions on the right hand side of the construct. Valuing of practice-based learning requires a recognition of knowledge as actively constructed within a social and cultural context. The cognitive constructivist and sociolocultural perpectives are prominent in contemporary learning theory where "learning and the development of expertise as a knowledge construction process … takes place in reciprocal interaction between individuals and their sociocultural environment." (Tynjala et al. 2003, p. 153 with reference to Billett 2002, 2006).

Put simply, the knowledge assumptions that underpin practice-based learning are aligned with those on the right hand side of the typology and reflect those described by Mode 2 knowledge types.

Traditions, Disciplines and Dissonance

In the representations of knowledge and knowing depicted in the figures above, the relationship between epistemological underpinnings and research and pedagogical practice are apparent. The traditions in validating and perpetuating knowledge claims based in one dimensions of the construct highlight deep and enduring preferences for a certain type of knowledge and a certain type of pedagogy. In the case of higher education, this enduring preference is for Mode 1 knowledge—knowledge produced by experts through empirical research, reproduced and presented to novices for their consumption.

Using Hofer and Pintrich's core structure of epistemological theory, and overlaying Gibbons et al.'s Modes of Knowledge and the Biglan-Becher typology, the relative positions of traditional university epistemological theory in use is posited in the two frames below, as depicted in Fig. 3.3:

In this Figure, the traditions of higher education are illustrated as being linked with an epistemological view in which knowledge is recognised as certain and fixed, presented as discrete and concrete and validated through research and reproduction within the university. In the top, right-hand corner, on the other hand, a view that recognises knowledge as contingent, tentative and relative is presented as linked with practice and application.

The construct that is depicted in Fig. 3.4 highlights not only the types of knowledge that are traditionally produced and legitimised within the academy, but also the pedagogies that those epistemologies underpin. For example, when knowledge

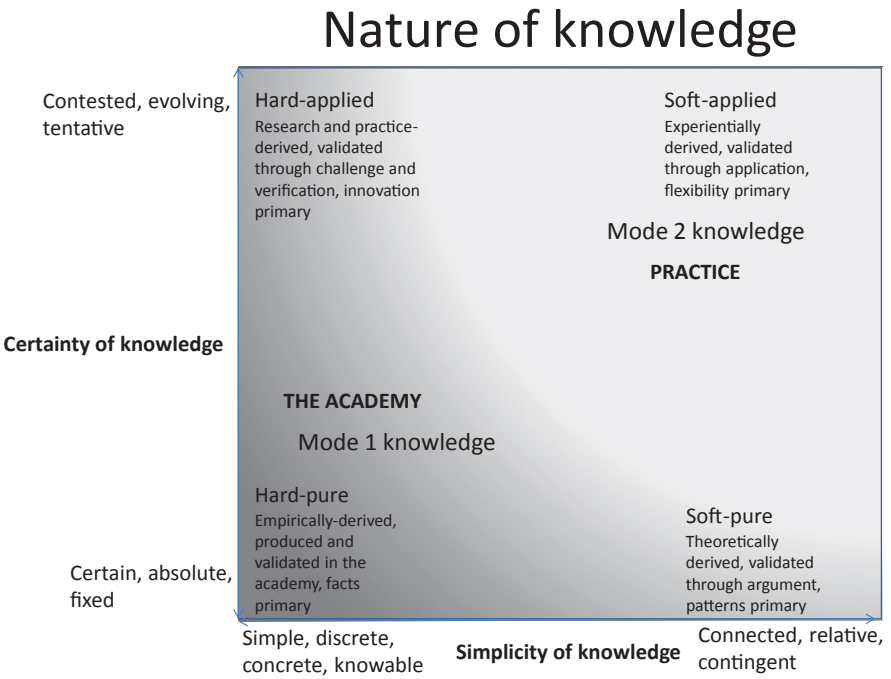

Fig. 3.3 The nature of knowledge—applying Hofer and Pintrich (1997), the Biglan-Becher typology (in Neumann 2001) and Gibbons et al.'s Modes of Knowledge (Nowotny et al. 2006)

is recognised as that which is derived empirically, produced and validated in the academy and where facts are knowable, concrete and discrete pedagogy designed to reproduce it privileges the authority of experts and favours a didactic curriculum which is dependent on the transfer of knowledge from expert to novice and assessment designed to ensure that canonical knowledge has been retained.

The proposed position of the HE sector on the epistemological theory construct above is supported by research and theory in psychology, education and organisation studies. For example, Hartels et al. (2006, p. 135) in their study of the epistemological beliefs of teachers in higher education found that a social constructivist view (one aligned with an internal/connected view of knowledge) was rare in the academy. Participants in the study "…believed that knowledge is secure, and probably more importantly, they believed in authority" (p 137). Kelly et al. (2000) illustrate the epistemological framing of university oceanography as based in concrete/external conceptions of knowledge through discussion of observation, interpretation and evidence. Tynjala et al. (2003) explore the separation of theory from practice in traditional higher education curriculum and the separation of higher education from 'expertise' based in problem-solving. Bates (2008) discusses a need for change in universities from the traditional treatment of propositional knowledge and knowledge as a commodity to its treatment as 'knowledge-in-action' and Scott (2010) highlights the primacy of the academic in determining the disciplinary outcomes

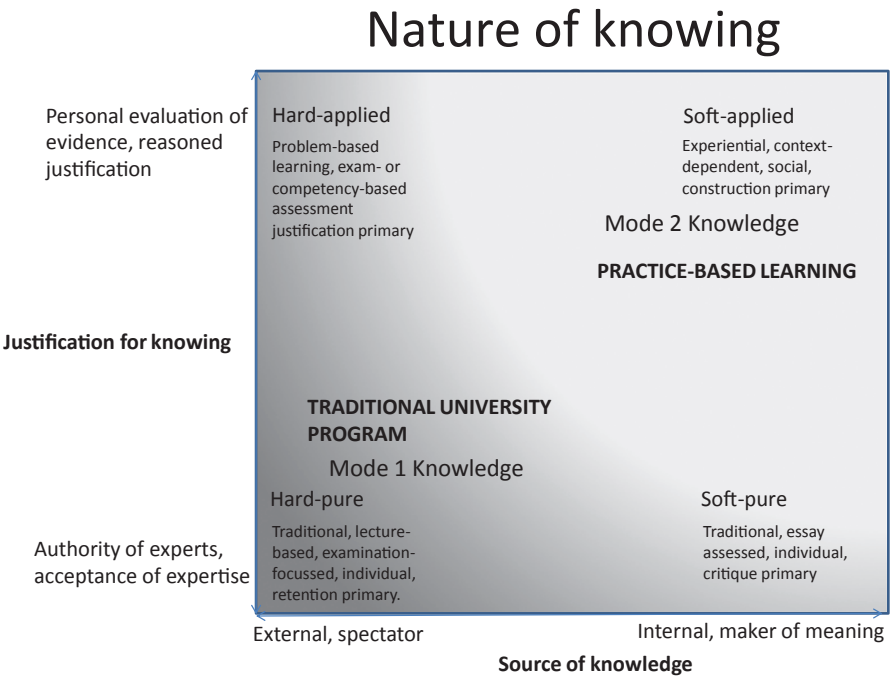

Fig. 3.4 The nature of knowing—applying Hofer and Pintrich (1997), the Biglan-Becher typology (in Neumann 2001) and Gibbons et al.'s Modes of Knowledge (Nowotny et al. 2006)

and interests of study in the university. Gallacher and Feutrie (2003) discuss the impact of the production, reproduction and validation of concrete/external knowledge in the academy on systems of assessment and accreditation of learning and Ballantyne, Bain and Packer (Ballantyne et al. 1999) show 'The lecture method … to pervade all disciplines as the dominant mode of teaching' (Neumann 2001, p. 136).

These are somewhat surprising findings given contemporary philosophers' perspectives of relativity and the move in educational literature toward a social constructivist epistemology. However, universities have long been the "…jealous guardians of knowledge and its production" (Pitman 2009, p. 227), producing Mode 1 knowledge (Gibbons 1994, p. 820); knowledge which is '…produced through research, is validated within the academy, is codified in academic curricula, and is re-produced through traditional methods of teaching and learning' (Gallacher and Feutrie 2003, p. 80). In universities, individual lecturers take their own constructions of what constitutes knowledge, learning and curriculum (Fraser and Bosanquet 2006) and standards within the academy (Lomas and Tomlinson 2000), and utilise these constructions in the development of their identities, relationships and practices. Universities and the academics within them in the performance of their work and in the maintenance of their identities, produce and reproduce a culture in which this knowledge is privileged.

It is perhaps the secrecy that is inherent in the '…experiences of working practice' (Suchman 1995, p. 56) that reinforces university lecturers' epistemological views on the simplicity and certainty of knowledge and the justification for knowing as residing in the expert—the distance with which work is observed by academics attempting to bring professional experience into the classroom ensures that university teaching about practice is simplified and stereotyped (Suchman 1995, p. 59).

Rather than secrecy, Gallagher and Feutrie (Gallacher and Feutrie 2003, p. 80), frame the issue as of one of status, 'Mode 1 knowledge … enjoys high status within the academy. Knowledge which is not of this kind has been seen as being of lower status'. Pitman too (2009, p. 237 also citing Taylor and Clemans 2000) refers to the hierarchical ranking of knowledge in which traditional, formal learning is superior to informal learning and in which a university degree in a formal educational environment is seen to impart to students knowledge, skills and attributes that are somehow lacking in those who learn in informal ways. This hierarchical effect is further evident in the tiering of Universities based upon their offerings—'liberal' universities finding a place amongst the most prestigious of institutions, whilst those offering vocationally oriented degrees taking a place in lower tiers of the higher education market (Lomas 1997). The impact of status on the identity of university faculty contributes to the perpetuation of epistemological privilege and the enduring preference for traditional pedagogies in HE.

However, this view of knowledge in higher education is currently under enormous pressure to change. The drivers for change to a broader epistemological base (and one that accommodates a greater recognition of knowledge in the right hand side of the Hofer and Pintrich typology) are ones that will encourage and fortify the practice turn: a knowledge based society and economy in which Mode 2 knowledge is recognised as critical; an agenda of social justice and social inclusion (Gallacher and Feutrie 2003); the demand for graduates who are 'job ready' (BCA 2008; DEST 2002); the growing sophistication of conceptions of knowledge in educational and organisational theory (Moravec 2008; Niessen et al. 2008; Stacey 2001) and research; and mounting evidence of the value of constructivist and sociocultural perspectives in learning theory (Billett 2002).

Knowledge Claims and Confluence

Perhaps surprisingly, it has been the HE sector which has experienced (and in many cases led) challenges to the very role of the academy. That challenge has prompted careful consideration of niches occupied by higher education institutions within the educational suite of services. The strategic provision of vocationally oriented qualifications in the 'new' (Gallacher and Feutrie 2003) or '3rd generation' universities across the developed world in the 1970s and 1980s prompted concern about role of the University and accommodated a reconsideration of the roles of HE in the post-secondary market.

In the new universities (and increasingly in the sandstone institutions) differing constructions of 'what counts' as knowledge and of the role of the institution have underpinned differentiation between the liberal, theory-driven programs of research and study (mathematics, pure sciences, arts) and those that are vocationally oriented. However, while research on the epistemological theories underpinning traditional practice in HE is quite well established (as illustrated above), little equivalent research is available to inform discussion of epistemological theories in use in vocationally oriented education. Certainly, the vocational education and training (VET) sector has long traditions based in apprenticeship structures which privilege experiential learning and suggest a closer alignment with dimensions on the right hand side of the Hofer and Pintrich typology, competency-based standards and assessment structures evident in many western qualification frameworks tie practice into dimensions on the left-hand side. Higher education programs designed to provide professional education (nursing, teaching, accounting, for example) similarly rely upon standards and standardised performance criteria and provide frameworks that link with assumptions of knowledge as fixed, stable and concrete.

In addition to the inclusion of structured work-based learning in traditions of vocationally and professionally oriented pedagogy, evidence of the differing epistemological theories in practice is illustrated by workplace assessment and recognition of learning through practice. These approaches are more closely aligned with the validation of Mode 2 knowledge, that which is '…socially distributed, application-oriented, transdisciplinary and subject to multiple accountabilities' (Nowotny et al. 2006, p. 39). This practice-embedded knowledge is produced outside of the academy and is particularly evident in the workplace where workplace assessment allows validation through its use and usefulness.

The VET sector has a history in which epistemologies inherent in Mode 1 (the competency model providing an example of the influence of a belief in the simplicity and certainty of knowledge) and Mode 2, appear to coexist. This somewhat ambidextrous epistemological underpinning suggests that VET and professionally oriented educational institutions would be placed in the top-left hand corner in each of the Nature of Knowledge and Nature of Knowing models, stretching some way to the top right-hand side of the model, but anchored through competency and other standards to the top-left (Fig. 3.5).

The different ways in which knowledge is produced, reproduced, validated and communicated are represented in the table above. The various domains highlight the epistemological bases upon which differing approaches to teaching and learning built and illustrate how differences in these approaches are perpetuated through practice within and across disciplinary and sectoral divides (Fig. 3.6).

Epistemological distinctions between the liberal arts and professional and technical education (and the sectors in which they have traditionally sat) have differentiated individuals, disciplines, institutions and sectors from one another. However, across the developed world recognition of the learning in work is evident in formal National and HE policies since at least the mid 1980s (NBEET 1990 in Pitman 2009, p. 227; Gallacher and Feutrie 2003) and non-formal and informal learning to be recognised in all sectors and across sectors in line with the 2004 AQF guidelines

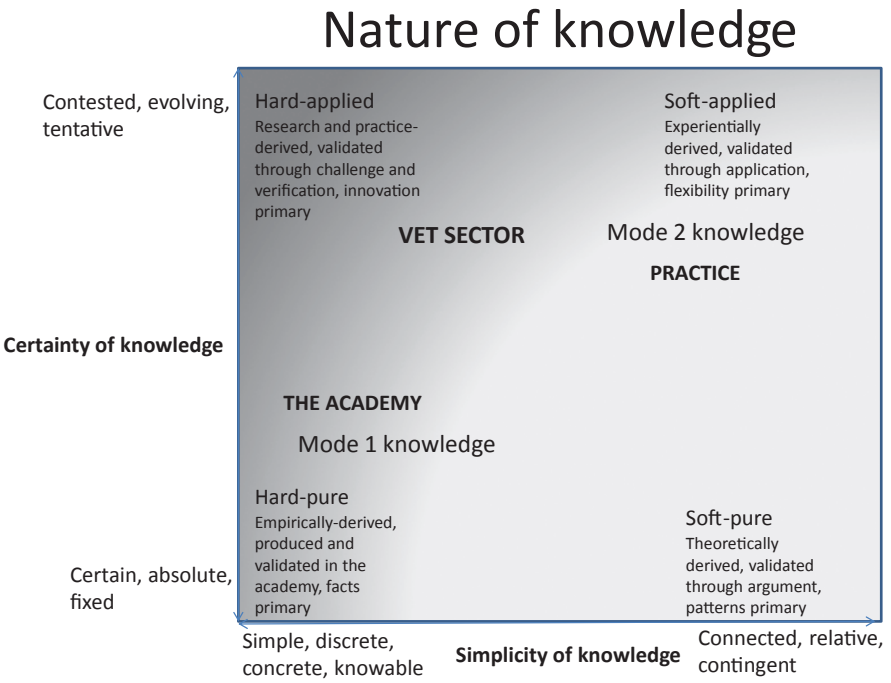

Fig. 3.5 Vocational and professional education and the nature of knowledge—applying Hofer and Pintrich (1997), the Biglan-Becher typology (in Neumann 2001) and Gibbons et al.'s Modes of Knowledge (Nowotny et al. 2006)

and agreed by the AVCC (Pitman 2009, p. 230). Pitman (Pitman 2009, p. 237) uses universities' recognition of prior leaning (RPL) policies as '…evidence that informal learning is not only accepted, but attains the same status, or rank, as learning achieved in a more traditional, formal environment'. While Pitman's (2009, p. 237) explanation for the growing acceptance of practice based learning through RPL as valid within the higher education sector is based on policy development and formal endorsement of these which lead to closer links between the VET sector and the HE sector, the reason may be somewhat more complex and more tightly tied to changing epistemological foundations to discourses within and across the sectors.

Epistemologically, RPL represents an important shift in higher education in that it recognises the need for *validation* of different knowledge claims within the education sector and while the academy receives some criticism for its perceived interest in people 're-shaping' their Mode 2 knowledge '…to fit the requirements of the academy'(Gallacher and Feutrie 2003) in order to gain credit, the RPL discussion is one which indicates a perhaps grudging, but positive step toward a broader epistemological stance in the academy.

The difficulties faced when bringing teaching practice based on constructivist epistemological beliefs to the academy are evident and have in recent times become the focus for rigorous educational and psychological research (Niessen et al. 2008).

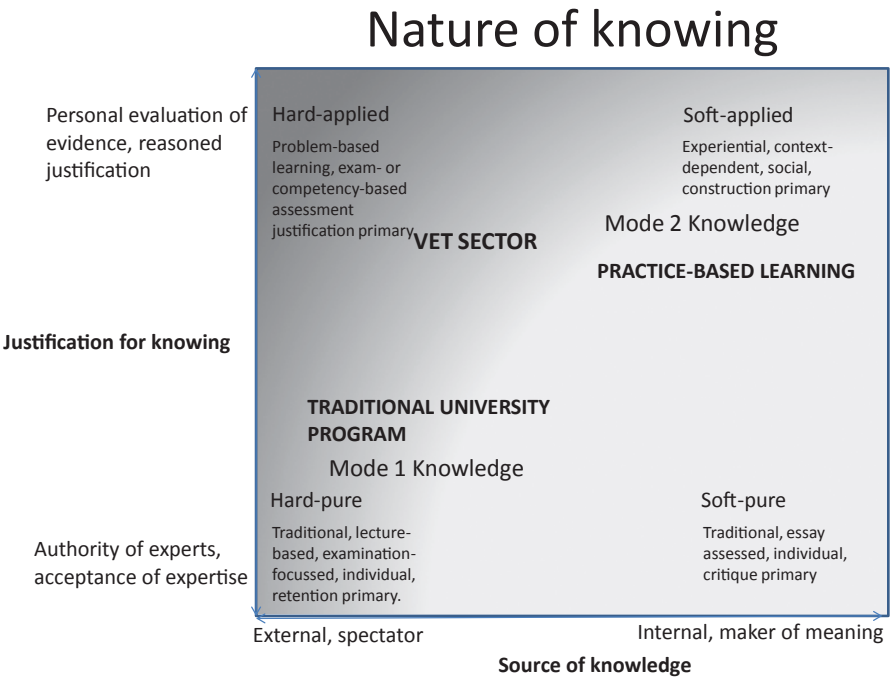

Fig. 3.6 Vocational and professional education and the nature of knowing—applying Hofer and Pintrich (1997), the Biglan-Becher typology (in Neumann 2001) and Gibbons et al.'s Modes of Knowledge (Nowotny et al. 2006)

Work on problem-based learning and resistance in the academy problematises the nature of epistemological belief and its development in teaching practice. In questioning the notion of a single epistemological view for individuals, they posit a more contextually based, dynamic, 'enactive' perspective on personal epistemology. Niessen et al.'s (2008) work (which also refers to studies by the psychologist Perry in 1968, Lyons in 1990 and Phillion and Connelly in 2004) where the relationship between teaching practice and epistemological belief is shown to be 'textured and complex'(p. 29) and for Niessen et al. at least, the relationship is fluid, emerging through enacting, interaction and dialogue in 'ever-changing webs of mutually defining elements' (p. 36).

Indeed, practice as a higher education participant is itself contested—academic practice (or practices; Gherardi 2010), is one in which academics collectively construct what is 'good' or 'bad' practice and regardless of attempts to delineate 'a practice' of academia, differing interests which have underpinned the traditional reluctance of faculty to act collectively (Riegle 1987, p. 59) continue to contribute to change in the sector.

Conclusions

It is the opportunity that practice-based learning has for bringing the student into the reality of work, within the boundaries of the practice and with organisational members that promises to ensure that the work of the university remains relevant to industry, to society and to the individuals who increasingly demand a vocationally focused and relevant education. Constructivist views of learning underpinned by broadening epistemologies "…provide important arguments for integrating education and work by emphasising the importance of the active role of the students and the integration of theoretical and practical knowledge" (Tynjala et al. 2003, p. 153).

A number of issues are raised in this chapter that invite further theorising and research. Firstly, in what ways are personal epistemological theory and organisational/industry culture co-constructed and reciprocal? Secondly, if personal epistemological theories are indeed enactive, what are the conditions under which they will respond to embrace practice-based knowledge? Thirdly, what are the implications for sectoral differentiation if the academy embraces wider epistemological foundations? And, finally, how do universities structure themselves vis-à-vis industry in order to align epistemological theories and delivery industry relevant knowledge?

The argument is made here that the epistemological differences that are constructed and reinforced in traditional learning settings within sectors as well as between them restrict the opportunity for appropriate education in contemporary environments. Important opportunities for higher education futures and standards exist in the broadening of the epistemological stance upon which credible and high-status knowledge is built. Practice-based learning approaches in higher education environments provide integration and reciprocation of value in learning and work and allow for more expansive, relevant and pedagogically appropriate experiences for learners across higher education environments.

Although the practice-based learning 'bandwagon' has been recently appropriated within higher education, there remains a range of difficulties associated with its integration and validation within the academy. However, the influences that press higher education institutions to accommodate broader epistemologies are real and requisite for performance in the contemporary educational, work and global environment. The recognition of the value of practice-based learning is creating a shift that makes fuzzy the boundaries between sectors, provides heterenogeity in the academy and provides an important opportunity for learning that is best suited for graduates in complex, changing and challenging modern times.

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Chapter 4
Developing Critical Moral Agency Through Workplace Engagement

Matthew Campbell and Karsten E. Zegwaard

Abstract This chapter undertakes an exploration of the intersection of work integrated learning and the development of professional ethics, arguing for a focus on the development of an awareness of critical moral agency within the emerging professional. The chapter considers the construct of agency in the workplace alongside issues of power and subjugation created through the positioning of the emerging professional. Developing from this consideration it is argued that work integrated learning, combined with an effective and integrated professional ethics curriculum can empower the emerging professional to transform practice through accessing opportunities of agency.

Keywords Moral agency · Professional ethics · Agentic practice · Emerging professionalism · Power

Due to significant business failures through unethical conduct, for example the collapse of Enron in the United States and HIH in Australia, and ongoing revelations of widespread corrupt practices in all sectors of the economy, such as scandals involving Securency and Note Printing Australia, associated with the Australian Reserve Bank, bribing officials alongside investigations into police and public service misconduct and corruption, there has been a heightened focus on the ethical nature and capacity of students graduating from higher education. A graduate, emerging into professional fields, needs to understand and be able to navigate the increasingly important ethical aspects of being a professional, with the capacity of transforming the workplace and themselves towards better ethical practice (Campbell and Zegwaard 2011a). Increasingly the literature identifies the importance of values education, enhancing ethical knowledge and conduct, and professional identity development (Campbell and Zegwaard 2011a; Herkert 2000; Keown et al. 2005; Trede et al.

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_4

2011). Universities are under increasing pressure to develop work-ready graduates (Archer and Davison 2008; Lomax-Smith et al. 2011), and with the focus on graduate outcomes, a move towards developing ethically and socially aware graduates (Barrie 2004). More so, universities are challenged to habituate effective learners and workers who are "willing and able to make informed, fair-minded judgements in contexts of relative uncertainty about what to believe and what to do in a wide variety of situations" (Facione et al. 1996, p. 67). Students, therefore, need to develop as critical moral agents (actively making choices at the same time as critically evaluating their moral implications) whilst developing their understandings of professionalism and professional obligations.

Work integrated learning presents a useful mechanism through which students are able to engage with the workplace and develop, *in situ*, ethical work practices, attitudes, and agency. Work integrated learning is understood within this chapter as work placement programmes that facilitate authentic and engaged experiences in a community of relevant practice (i.e., workplaces) (Cooper et al. 2010). There is a deliberate and intentional boundary placed on this definition in that the experience is one which is located within a workplace, but with appreciation that the definition of the modern workplace is a contested idea. In this sense the definition adopted in this chapter is somewhat synonymous with terms such as cooperative education, internships, practicums, and professional and field placements. A primary goal of a work integrated learning program, and likewise professional ethics education, is the evolution within the student of a sense of self and the development of an identity within their chosen profession and/or workplace. It is through these experiences that students begin to shape, and understand, their own identity as professionals. Ethical practice emerges through a negotiated position between the individual and collective. The ideal professional has, therefore, an obligation to affect positive change and actively respond to ethical ideals and misconduct; that is, the professional, at any stage of their career, must be actively engaged in the construction and negotiation of acceptable ethical practice.

An argument is made in this chapter for approaches within work integrated learning that provides support for the development of a critical mind and moral courage of the emerging professional and engaged student. Within this chapter it is asserted that students emerging from a university degree program should be considered to be professionals based on an assumed understanding of professionals as being members of occupational groups with high levels of education and critical mind serving the public good (Bowie 2005). Therefore, all university students and graduates are challenged to act with a sense of ethical and proper conduct regardless of the place of ethics within the formal and informal codes of a profession. Furthermore, mere conformity to these codes is not an acceptable position for a true professional (Bowie 2005). Therefore, students need to develop as critical moral agents in navigating these understandings. The concepts explored in this chapter can be extended to the worker beginning in the workplace, and as such throughout this chapter reference will be made to the 'emerging professional' to capture the experience of students in work integrated learning programs, as well as the transition of the student to graduate and commencing in the workplace.

It is our position that if to argue that someone is a 'work-ready' graduate and able to act professionally, it implies that this person must also be acting in an ethical manner. Ethics, and ethical conduct, are essential components of professionalism and professional conduct. Students engaged in undergraduate studies, though, tend to have narrow conceptualisations of professionalism (Grace and Trede 2011), including professional ethics and workplace values. The literature has argued that to have effective enhancement of professional ethics development, then professional identity development and professional ethics must be embedded into the curriculum (Campbell and Zegwaard 2011b; Trede 2012). However, this identity development does not commence from *tabula rasa*, instead it builds upon existing dispositions and prior experiences (Billett 2006a; Campbell 2009). The manner by which the student engages with professional work-life is strongly related to their prior identity development (Reid et al. 2008), thus it is important for students to be well-engaged and aware of their personal values and ethics, and be able to interpret and apply these to the profession around them. Through the consideration of a study undertaken of the work integrated learning experiences of engineering and science students, this chapter considers how the evolving professional identity of emerging professionals is complimented by the development of critical moral agency.

Power, Agency and Learning in the Workplace

An emerging professional comes to understand the expectations of their professional identity through points of intersection of their personal identity and the social demands of the workplace. Understandings of professional conduct and practice are often shaped through the early interactions that a beginning professional has with the workplace (Campbell et al. 2009). In the case of work integrated learning experiences, where a university student engages with the future workplace and professional culture, there is the development of concepts of proper conduct and practice shaped through experience. The student, located in the workplace, is challenged to translate the theoretical knowledge developed throughout the university experience into enacted practice within the workplace, as well as theorising from the practice setting to construct understandings of self and professionalism. However, this translation and theorising is not undertaken within a neutral setting void of relations of power and subjugation to dominant norms. The dominant workplace and professional culture creates boundaries and social ordering that disciplines the emerging professional into particular, acceptable types of people. The understanding of the emerging professional of what constitutes a professional within their chosen field is constructed through subjugation to the dominant norms of an existing culture. Learning in, and through, the workplace is a process of producing particular subjectivities (Edwards and Nicoll 2006). As Applebaum (2004) contests, there is a complicity between the individual and the workplace such that there needs to be acceptance by the individual that they are unavoidably part of something that is doing something to them, for them and through them. More importantly, what is being

done may not be attributable to any intention or choice, but is simply a consequence of being within an environment where one is made subject to dominant forms of power.

A proper account of learning in the workplace must consider the relationships of power (and subjugation) that exist in context. Power here is broadly defined within a conventional understanding of the ability of one person (or group) to make someone else do something they would not otherwise do (Lukes 1976), thereby employing processes and means of subjugation of the individual (Foucault 1977, 1982). Acts of power within the workplace are not solely 'top-down' exercises. There exists, within practice settings, a paradox of power, in so much as the act of power brings forth the subject at the same time as repressing it, and simultaneously produces the conditions for the subject's resistance (Billett 2006c). As Foucault (1982) contends, power is seen in the struggles against it, where we simultaneously assert the right to be different, but also reject that which separates the individual. Within these rejections of power we are not challenging an institution of power, but a form of power that:

> Applies itself to immediate everyday life which categorizes the individual, marks [them] by [their] own individuality, attaches [them] to [their] own identity, imposes a law of truth on [them] which [they] must recognize and which others have to recognize in [them]. It is a form of power which makes individuals subjects. There are two meanings of the word 'subject': subject to someone else by control and dependence; and tied to his own identity by a conscience or self-knowledge. (p. 781)

That is, we are both controlled by what we perceive others to expect from us, but also by the boundaries of desires that constitute our sense of self. Power is exercised through an alignment of espoused organisational goals and personal desires (Erez and Earley 1992). An emerging professional is exposed to social suggestions of appropriateness and truth. The exercise of power, depending on the level of legitimacy, in this manner provides, or impedes, access to learning opportunities within the workplace (Contu and Willmott 2003). Therefore, an emerging professional needs to come to understand the norms of practice and learning within their setting in order to advance their development. Central to this idea is the significance of mentors and partners who can guide the behaviour of the newcomer into the professional world and also provide the legitimacy, through association, required to access further learning and social acceptance (Carden and Harris 2005). The more an individual is able to reflect the social and cultural norms the more readily they can advance their learning. However, this presents as a challenging idea when these social and cultural norms are not ethical sound practices, or do not align with personal ethical perceptions and desires.

The individual, and their engagement, learning and development are not solely captive to forms of social suggestion (Billett and Pavlova 2005). A person in the workplace is not a docile body (Foucault 1977), but is active in the construction of both self and society. Whilst constrained and shaped by situational factors, social practices and cultural norms, the individual continues to be able to exercise their agency in ways of being and maintaining themselves; though having to renegotiate their sense of self through these processes (Billett 2006c; Billett and Pavlova 2005).

Professional identity formation, and therefore professional ethics, is a negotiation between professional and personal factors, negotiating the social expectations of a profession as well as the individual's presentation of self within the professional context. It is a dynamic and changeable relationship expanding over the whole life situation and is not isolated solely to the experience of the workplace (Nystrom 2008). Learning throughout the working life, and the formation of a professional identity, can be best understood as a transformative journey of selective engagement in changing work practices (Billett and Pavlova 2005).

Across many studies by Billett et al. (2001b, 2006a, b, c, 2009, 2013) has evolved the idea that learning in the workplace is a consequence of the relational interdependence between the histories and dispositions of the ontogenetic self and the affordances of the workplace. The social conventions, structures, and norms of the workplace alongside the constructs of self are co-constituted through the interactions of the workplace. Fenwick and Somerville (2006) contest that Billet's analysis through relational interdependence still conceives individuals and social practice as separate entities; they instead argue for adoption of a post-structural or Foucauldian theoretical analysis which views the social and individual as mutually constitutive. The student, and emerging professional, is a subject of the power of the social world, and through complicity with the dominant norms perpetuates and makes existent this same power. Work, or more so success in the workplace, is not a stable or essential characteristic of a person, but is, rather, a repeated social performance contingent upon dominant social norms and the regulation of power. Applebaum (2004) highlights the complicity of the subject with the perpetuation of power, arguing that this is a necessary facet of human existence and social survival. In considering how we construct ourselves within the social Applebaum suggests that:

> These performative acts are not scripts executed by a detached actor; they are constitutive constraints without which we could not exist as subjects who think, live, and make sense of the world. Power is thus located in the norms and conventions that regulate discourse. (p. 64)

The challenge identified by Fenwick and Somerville (2006) in considering the mutually constitutive and relational interdependence of the social and self is "also to identify sites of individual resistance and agency in the 'cracks and fissures' of mobile networks of power" (p. 263). Butler (1995, as cited by Applebaum 2004) argues that to claim the subject is constituted is not to claim that it is determined. That is, although there are dominant social norms within the workplace that constitute and construct the ideal worker, these are not absolute determinants of behaviour and practice. Through agency individuals exert their own power on the organisation. Lave and Wenger (1991) propose that the newcomer, in particular, is in a powerful position as a consequence of their naivety. They are excused the space to operate outside the conventions and norms of the social group, at times extending existing practices through naïve action. Further to this naïve action, individuals within a practice setting can aim to shape the setting to adjust to their sense of self, goals and desires (Felstead et al. 2009).

The Agency of the Emerging Professional

Change in workplace practices is possible because of the inherent instability of symbolic and discursive norms (Applebaum 2004). Within the dominant norms of the workplace there are opportunities of resistance and disruption (i.e., 'cracks and fissures') through which the individual is able to challenge and reshape the boundaries of acceptable practice. Likewise simple uncritical compliance with social expectations is not reflective of the 'ideal professional' (Bowie 2005). An 'ideal professional' must have the capacity to critically assess a situation and decide on a path of conduct which supports their professional obligation of service to society. Agency, as understood by Applebaum (2004), is not about 'choice'; it is "grounded not in the subject's distance from constituting discourses but in the subject's capacity to vary rather than repeat those discourses" (p. 66). That is, agency is not simply to choose particular actions over others, but to reshape and transform the discourses that create the conditions for the legitimisation of particular actions.

A subject cannot exist outside of discourses of power. The subject, or emerging professional, is challenged to interrogate ways in which they are able to reform dominant norms in favour of something more preferable. In constructing an understanding of self within the social structures of the workplace the emerging professional needs to reconcile their ideal standards against those that are present at other layers of being. This formation of the professional self is not solely at concession to socially dominant views, but engages the individual in the exercising agency in determining the appropriateness of their presentation of self. As asserted by Billett (2006c):

> Evidence suggests that while constrained and shaped by situational factors, social practices and cultural mores, individuals are able to exercise their agency in ways aligned with being and maintaining themselves, albeit negotiating their sense of self through these processes. So their sense of ontological security is not found in either the personal or social but in negotiations between the two. (pp. 6–7)

An individual's ability to freely engage in the workplace is not negated by their existence within the context. Individuals selectively engage in particular aspects of the workplace and practice which support the development of their sense of self, and in other aspects learn to perform in ways seen as favourable. The emerging professional needs to develop the capacity to identify and respond to opportunities of agency, or those moments where the sense of self can be freely expressed.

Professions, by the nature of their origin and status, are imbued with institutional forms of power that have encouraged them to operate in often self-interested and discriminatory manners (Kleinig 1996). These forms of power have created the frames that shape perspectives towards favourable practices. As Kleinig (1996) writes:

> Although professionals possess an enviable expertise, the institutionalisation of that knowledge/expertise has encouraged a form of tunnel vision or collective hubris resistant to correction and scornful of alternative and sometimes better ways of doing things. (p. 44)

The emerging professional is therefore challenged to critically engage with the dominant social and cultural norms of the professional space and expose the 'tunnel

vision or collective hubris', exposing the existent blind-spots limiting ethical conduct. The ideal professional has an obligation to affect positive change and actively respond to ethical ideals and misconduct. More so, they must be empowered to exercise agency to transform professional practice.

An Exploration of Moral Agency in Engineering and Science Students

To contextualise a concept of moral agency within the experience of students in work integrated learning programs, a study (see Zegwaard and Campbell 2013) was undertaken that explored the experience of a cohort of second year engineering and science students. The aim of this study was to investigate student's pre- and post-placement understandings and experiences of professional ethics, values, and decision-making as part of an engineering and science work placement program. By interrogating the experiences of students during their first placement it was hypothesised that the impact on perceptions of appropriate practice and organisational/professional values was more validly attributable to the experience of the workplace. It is acknowledged that development of ethical understandings and personal moral agency is an ongoing and life-long experience (Mustakova-Possardt 2004). However, the design of the study was to try to isolate the experience of students within the complexity of the work integrated learning program.

The work placement programme for engineering and science student uses an educational approach termed cooperative education or work integrated learning (Cooper et al. 2010; Groenewald et al. 2011), with the placements being compulsory for the Bachelor of Engineering and essentially optional for Bachelor of Science (Technology) students (where the alternative option is the Bachelor of Science degree) (Zegwaard and Laslett 2011). Students engaged in this programme undertake a placement preparation subject in the second year of study prior to their first 400-h placement over the summer break, followed by a post-placement reflection subject in the third year, and then a second 400-h placement over the following summer break (University of Waikato 2013). Placements are situated in a professional workplace relevant to the students' discipline of study. Importantly, these students on work placement are paid and treated as ordinary employees for the duration of the placement, thereby sharing characteristics with the emerging professional.

The data in the study was collected through a mixture of five and ten point Likert scales surveys conducted pre-placement, during placement, and post-placement, and semi-structured interviews undertaken before and after the placement. A total of 119 students were invited to participate in the pre-placement survey, with 31 (26.1%) usable responses received, and a total of 94 were invited to participate in the post-placement with 25 (26.6%) usable responses received (pre-placement data: $\alpha = 0.92$; $\bar{x}\mathrm{SD} = 2.01$; post-placement data $\alpha = 0.81$; $\bar{x}\mathrm{SD} = 2.35$). Such response rates are typical, perhaps even favourable, for a lengthy online survey without incentives (Deutsken et al. 2004; Dillman et al. 2009). Semi-structured interviews were

undertaken with four self-volunteered students, with the aim of these to provide some clarification for the survey data and to capture individual experience. The number of interviews was adequate to validate the survey data, and with repeating themes being evident suggested that they were indicative of broader experiences.

The emerging professional is not devoid of pre-existing histories and dispositions, and they interpret and understand the world of the workplace through a lens formed from these (Billett 2006a; Campbell 2009). The emerging professional interprets their experience through a lens of prior experiences such as family environment, cultural context, social surroundings, and educational settings. This lens includes already shaped value structures and moralities that are further developed and reinterpreted through their experience in the workplace. Unsurprisingly, survey respondents strongly believed that parents/caregivers (Likert score of 4.61 out of 5.00), followed by friends/peers (3.32), and wider family members (3.06), had significantly influenced the development of their personal values and ethics. Other elements of influence, such as teachers, the media and previous workplaces were seen as less influential, with borderline negative results. More so, community leaders (i.e., coaches, youth group leaders) and wider society (2.13), and religious leaders had little influence (1.68), the latter is likely due to the modern disconnect with institutionalised religion (however, the subcohort that identified themselves as regular religious service attenders saw religious leaders as influential as their friends and family). These scores highlight the breadth of influence that come to bear in shaping an individual's concepts of right and wrong, and the virtuous. Students themselves indicated that they perceived professional ethics and values as complex, including after a workplace experience, and were unsure if they could positively impact the future workplace values despite having successfully engaged with workplace values previously. However, these experiences also provide the sources of frames that are used to interpret future experiences and encounters.

The emerging professional is not absent of prior experience and influence, but instead brings to the workplace perceptions of right and wrong evolved over their lifetime, shaped by the experiences of those around them. In particular there are strong roots, founded in the experience of the family, that frame the perceptions of individuals of the world around them. Such a conclusion in itself is not remarkable as many previous psychologists and sociologist have drawn similar conclusions. Interestingly, this work also highlights the complex nature in which individuals build their ethical positioning—the participants of the research believed that media and teachers had little influence in their personal ethics and values, however, literature has long indicated that these two elements are in fact significantly influential on the development of personal ethics and value (Entman 1989; Weissbourd 2003; Yost 1997). This suggests that students may not be aware to the extent the word around them has influenced their personal ethics and values, and we may need to consider here the work of Foucault (1982) who argues that people often unknowingly, and particularly uncritically, accept socially dominant positions as acceptable (thus ethical) norms. However, it is important that this framing, from whatever influences these were derived, becomes important in understanding the way that emerging professionals interact with the workplace. As Moberg (2006) suggests, these

long-held value positions and understandings are not easily undone through a relatively passing workplace experience.

Evolving Agentic Practice

Perception of conduct and opportunities for agency are important in being able to develop capacity to be a critical moral agent in the workplace. Moberg (2006) presents a critique of ethical conduct through an argument based on the concept of perceiving the world through moral and competence lenses. He argues that employees view managers and colleagues through a dominant moral lens rather than assessing on competence. Due to the position of the lens workers tend to critique the practice of those around them through assessments of moral virtues, but with an over-emphasis on the negative moral qualities. The focus on the negative, or weaknesses of others, is hypothesised to result in the formation of organisation communities that are dominated by particular acceptable moral positions. Also there is little recognition of colleagues who go beyond and exceed expected moral conduct.

> Employees whose morality goes above and beyond the call of duty are unlikely to receive the attention and accolades their actions deserve. This blind-spot may also impede positive role modelling as a tool for the cultivation of another's moral character. (Moberg 2006, p. 416)

Equally present is that where a colleague steps outside the acceptable moral frames they are sanctioned and penalised for their actions. This occurs even though the action, of itself, may be morally grounded. For example, Moberg (2006) presents the case of Cynthia Cooper, the celebrated whistle-blower at WorldCom. In 2002, Cynthia brought to light the financial improprieties of the CFO and CEO of WorldCom, ultimately leading to convictions of both for securities violations. However, following the convictions of the managers, Cynthia was progressively penalised for her acts through having her salary frozen, budget cut, and authority tapered. In an interview with Amanda Ripley from Time Magazine, Cynthia Cooper was questioned on her experience of being a whistle-blower (Ripley 2008). The article reported:

Ripley: When we spoke in 2002, you had never been thanked for your work by a WorldCom executive. Is that still true?

Cooper: You know, there were lots of people within the company who did thank us, who were supportive, and we received hundreds of letters from people outside the company, especially after the TIME article.

Ripley: I guess that's a no, then.

Cooper: [Laughing] We didn't do it for the thanks anyway.

As Moberg (2006) concludes, "whistle-blowing is seen by insiders more as an emblem of betrayal than a sign of virtue" (p. 416), and in Cynthia's case the initial reaction was one of support (through absence of sanction), but progressively she became isolated and viewed as a risk within the organisation for having stepped outside the expected social norms and moralities. A perception, created through a

moral lens of examination, emerged of Cynthia that positioned her actions outside such moralities as loyalty, discipline, and service. The dominance of judging others through a moral lens does not, according to Moberg (2006), necessarily represent a serious threat to moral agency. Whilst the judgements, and blind-spots, challenge the ideas of what is considered virtuous, there is still present some concept of the moral at the centre of judgements and decision making. In the case of Cynthia initial reactions were supportive of her taking action in response to serious misconduct, thereby the moral lens enabled agency, but blind-spots of social norms limited ongoing support for her actions.

Here, however, exists "a more serious threat to moral agency … when individuals act on an incomplete assessment of their own personal qualities" (Moberg 2006, p. 417). Everyone believes themselves to be moral. Such framing was evident in the study of engineering and science students, whereby respondents indicated they had a good understanding of their own values (7.61 out of 10), believed it was important to understand one's own values (8.35), and (both in pre-placement and post-placement results) thought they generally made good ethical choices. However, when asked if they or other struggled making the right ethical choice, these students thought others around them (students, co-workers, supervisors, and managers) struggled more and went on to give a statistically stronger response ($p < 0.05$) that they themselves 'behave ethically' compared to 'society had generally good values'. Such positioning presents a significant challenge for ethics education as there will be reluctance to have personal ethical positions challenged by externally offered alternatives because of their believe that they are already ethically superior to the others around them.

There is an assumption, in examining the self, that we are morally good, and therefore we have a tendency to make personal judgements based on competence rather than moral frames. Emerging from this proposition is the foundations of attitudes of disengagement from ethics training and education that does not have a practical relationship to competency and skills in the workplace. Discourses of 'the professional self' emphasise competence, laying claim that all sense of morality has been learnt in childhood. Such is the basis of comments such as "You can't teach ethics at work; you're either brought up to be ethical or not" (Moberg 2006). Framing of the self in such a way creates a blind-spot in which people are so keen on developing the competent self that they overlook "the substance of expression of their moral selves" (Moberg 2006, p. 418). This is particularly apparent in the emerging professional whose significant focus is on performing in the workplace against competency criteria, rather than being assessed on moral and ethical approaches to work. This framing is further emphasised through the forms that assessment in work integrated learning placements generally takes, with a strong focus on performance criteria and competency acquisition (Hodges 2011; Zegwaard et al. 2003), and also the tendency for managerial frames to be competency focused (Emler and Cook 2001; Moberg 2006). This creates the conditions where the emerging professional's cynicism about ethics in the workplace can flourish.

Framing of perceptions of self, as explored above, and others are important in developing an understanding of how the emerging professional comes to appreciate

the ethical nuances of the workplace (Valentine and Barnett 2003). The emerging professional rarely is formally inducted into the particular values of an organisation or expectations of ethical conduct. Instead they acquire these understandings through a sequence of interactions and experiences with colleagues and activity. It is through activity that the emerging professional comes to prioritise particular value ideas and practices over others. For example, during one interview a participant, James (pseudonym), spoke about his placement in an electronics manufacturing plant. For him the greatest ethical challenge in this environment as he perceived was 'safety'. This was expressed as the ability to make safe products that do not harm customers, as well as working safely to protect your fellow workers. James highlighted the importance of "doing what was right for the company" or "working for the good of the company", but when these ideas were explored further they were reduced to concepts of competence in making safe product. He valued the importance of being seen as a productive and competent member of the work team and organisation.

James saw worth in actively developing practice that was considered acceptable. In trying to explain where he had come to understand what was valued he highlighted that largely it came through observing what others were doing and how they behaved, but "not just those things, though, more broader things as well, like upbringing". James further explained that he had been provided with the company handbook, in which he thinks there was something about company values and ethics, but "it was all kind of generic, the same as any other company". However, James' comments suggested that he saw the handbook as nothing more useful than a bed-side table adornment rather than a meaningful guide to practice. He had also had some form of workplace induction, but could not recall what had occurred. Instead he placed far more importance on his colleagues as guides, learning what was important through observation and interaction, engaged with activity and being present in the workplace. Similar practices of learning in the workplace have been evident in the research undertake by Billett (1995, 2001a, 2008), and challenge the commonly held notions of the forms that ethics education can take.

Billett (2014) challenges the predominance of formalised 'schooling' and the overemphasis of promoting learning through inter-personal approaches with more informed social partners, as the privileged location of learning. Processes of learning outside of educational programs are seen as lacking rigour and having weak learning outcomes. Whilst not rejecting the value of teaching, facilitation and instruction, Billett does argue that learning is not restricted to only these circumstances. He states that "much, and perhaps most, of learning across individuals' (working) lives arises in circumstances not directly and immediately shaped by intentions of and interactions with other workers" (Billett 2014, p. 3) Billett (2014) proposes that a "foundational and key process underpinning ongoing learning is mimesis (i.e., imitative representations of nature and human performance) arising through observation, imitation and rehearsal" (p. 4). That is people learning through the observation and imitation of the actions of others. Mimesis is more than just mimicking; instead it is enacted through conscious higher order processes such as evaluation and analogy. As Billett (2014, p. 6) suggests,

> These cognitive processes require individuals to inquire, understand, piece together, extend, and to complete incomplete aspects of what is being observed and engaged with, based upon what they already know. … They require individuals to understand the intentions, actions and goals which the person who is being observed is demonstrating. It includes the ability to understand the other people's perspective, to their intentions and goals.

The implications of Billett's conceptualisation of mimesis, is the necessity for emerging (and learning) professionals to be provided with opportunities of engagement and immersion in practice for periods of time, and supported in the comparison across these encounters. Focusing on processes of ethics education, and the development of critical moral agency, mimetic principles of learning suggests that there is a need to support students, and emerging professionals, to articulate, compare and contrast experience of workplaces and practices, revealing the, previously discussed, opportunities of agency. This extends previous conceptions of ethics education, to also consider the importance of supporting the empowerment of the student to be an agentic professional.

Educating for Critical Moral Agency

Developing an awareness of the opportunities of agency is a critical element of effective professional ethics education, where it is asserted, as it is in this chapter, that such education should empower the emerging professional to challenge dominant unethical practices through critical moral agency. A deeper exploration of the educational aspect is undertaken later in this chapter. Moral agency, as argued by Moberg (2006) is shaped by the frames and perceptions people have towards their colleagues, managers, and themselves, often balancing notions of morality against competence. Moberg suggests that particular frames create ethical blind-spots that allow for poor conduct to persist. He contests that "a *frame* is a personal perspective of a situation, comprising well-learned sets of associations that focus people's attention on and label some aspects of a situation to the exhaustion of others" (p. 414), and went on to explain that most frames will create blind-spots. Blind-spots are understood as 'manageable deficiencies in moral agency'. It is, therefore, an imperative of ethics education that aims to shape professional practice, as being based around developing understanding amongst students of the particular frames that they bring to situations, and highlighting the blind-spots within the frame to which can be responded to.

The teaching of professional ethics, as an expression of critical moral agency, is a challenging endeavour because by its very nature, ethical decision making, a core component of professional ethics education, draws upon and develops further an individual's own ethical frameworks and values (Bowie 2005; Grady et al. 2008). It is an impossible task to design an educative experience that develops a prescribed list of values within students, nor should it be the aim of such a program to have students merely prescribe to a pre-determined values framework (Banks 2008). Instead ethics education must provide students with the opportunity to explore their understandings, realise important considerations, and engage with examinations of

practice and experience to enhance future practice (Bowden and Smythe 2008). Janik (1994) suggests that professional ethics, therefore, becomes more a matter of the interpretation of problems rather than of the application of moral theories; it is more a matter of hermeneutics than it is of value systems. He argues that in accepting this understanding the logic of professional ethics is one of discovery based on precedent, example and experience, not through theoretical engagement with philosophical problems. It is through experiences, such as work integrated learning, that students, and emerging professionals, begin to evolve the necessary precedents to better understand the opportunities of agency and professional ethics.

In previous publications (see Zegwaard and Campbell 2011), we have argued that professional ethics may be seen as a subset of personal values considered through a lens of professional codes and education. Enacted practice is an expression of these filtered values and understandings, learnt through engagement in the workplace. Therefore, there is a role for higher education institutions, who engage students in work integrated learning programs, to ensure that students have a highly developed sense of their personal values framework and have considered this with respect to professional expectations, thereby equipping them to be critical agents in the formation of their professional practice. A student engages with the values and practices of the workplace using an interpretive lens shaped by their histories, dispositions, and personal values developed over their lifetime. The role of ethics education, therefore, becomes the ability to have students reflect upon each of these elements and develop a critical sense of mind so as to avoid mere conformity, but instead promote active decision making and, if necessary, transformative practices. However, dispositions, particularly towards ethical practice, will only develop where these are welcomed, encourages, supported and rewarded during learning activities. Ethics education, in this sense, is not just a theme mapped across existing programs but is explicit teaching of values and critical moral agency.

As emerging professionals, students need to be more than mere acquirers of existing practices. Instead they should develop as critical agents of their learning and be active in shaping their practice and practice settings (Billett 2008), with an awareness of the interplay between their personal morals, professional ethics, and obligations. There is opportunity within education to bring together elements of critical thinking, critical theory, and morality to develop within students the capacity to transform practice and organisations. Professional ethics education should be a cornerstone in facilitating exploration by students of existing moral and values frameworks, allowing them to actively reconstruct these through reflection on (and in) the experiences of the practice setting. Furthermore, there is a role for professional ethics education, in conjunction with work integrated learning experiences, to facilitate a critical engagement with cultural norms and established workplace value systems, allowing the ethical transformation of the workplace.

An effective ethics curriculum, which builds capacity for students to be critical moral agents within their profession, has to address both the idea of developing critical moral agency as well as a sensibility about the workplace the student will be moving into. Such a curriculum needs to be inclusive of the development of the whole person, not just the technical worker. As Mustakova-Possardt (2004) states:

> The capacity to engage life fully and responsibly and to problematize every aspect of the natural, cultural and historic human reality is a whole-person phenomenon, a way of being, which includes, but cannot be reduce to, moral identity, moral reasoning, moral affect or any other particular moral dimension. It also includes what critical theory and praxis call historical agency and empowerment; what Maslow calls mental health and authenticity; what Fowler calls the development of faith and the quest for meaning; what ancient wisdom traditions and transpersonal psychology describe as an orientation to growth, unitive understanding, interconnected ways of being and transcendence. (p. 248)

It is suggested, therefore, based on the work of Bowden and Smythe (2008), that there are five core elements to an effective professional ethics curriculum, which responds to these ideas. These are:

1. Reflection on the relationship between personal and professional values and expectations
2. Interrogation of practices and case studies to develop a greater sense of ethical conduct and both personal and professional value systems
3. Development of decision making capacities to manage ethical considerations within their practice
4. Development of skills to negotiate and respond to ethical concerns and issues
5. Improved capacity for negotiating and persuasive abilities to advocate an ethical position and advance change

These elements can provide a focus for the selection of appropriate pedagogies in developing a critical moral and professional ethics education. At the core of these, though, is the integration of critical considerations of the self and personal, alongside the social and norms of practice. Importantly this list moves beyond just making students aware of these critical considerations to the development of capacity to negotiate with, respond to, advocate for and persuade others. That is, there is a call to action and an empowerment of the student to exert agency reshaping their practice and practice spaces. Discussions and analysis of work integrated learning program often focus on the socialisation and enculturation of students through the experience. Such is framed in the use of concepts such as ‘work readiness’, ‘employability’ and also through the performativity of assessment forms that clearly position power with the workplace supervisor and normative practices. However, this conceptualisation tends to overlook the opportunity of developing a critical sense of mind which allows students to become morally agentic in their future workplaces. Any effective integration of ethics and values education programme into a curriculum must include a focus on empowering the individual to become morally agentic.

Conclusion

The increasing focus on professional ethical conduct highlights the importance of explicit professional ethics education. Professional ethics education needs to be more than just ‘philosophically-centric’ courses, but instead embracing of the opportunities and affordances of practice. Traditionally approaches to professional

ethics education have attempted to integrate with practice through the use of case studies and analysis. Yet, work integrated learning provides opportunities by which students can engage in the real workplace, undertaking authentic tasks, and practice navigating, and engaging with, real authentic ethical aspects of the workplace. Through pedagogies of integration links can be drawn between the explicit teaching of professional ethics and the experiences of practice in the workplace. It is not adequate to merely have professional ethics education existing alongside work integrated learning experiences in an uncritical manner. Instead there is opportunity for a critical approach to ethics education that unpacks the norms of the workplace, considering issues of power and subjugation, and highlighting for students opportunities of agency through which they are able to be transformative of workplace practices. Integration of work integrated learning experiences with critical ethics provides opportunities for students to evolve capacities as critical moral agents.

The emerging professional is challenged to not only understand the necessary competencies of the workplace, but also the morality. Formulating a professional identity requires a balancing of these two perspectives, awaking personal knowledge of moral weaknesses and blind-spots, and understanding how these intersect with expected norms of the workplace. Educating for critical moral agency must account for the histories and dispositions of the ontogenetic self. Students must be challenged to evolve understandings of their personal ethical positions and the complex nature by which they have developed, and empowered to successfully and agentically engage with the workplace. To be truly a work-ready graduate, students must be able to behave ethically, identify the underlying ethical aspects of a situation, and be able to be critical moral agents in their workplace, so to positively impact the workplace values and their future careers. Work integrated learning programmes presents a powerful opportunity to develop effective ethical educational approaches.

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Chapter 5
Standards and Standardization

Catherine Hungerford and Patricia Kench

Abstract This chapter explores the ways in which standards have impacted on the practice-based learning experiences of health students. Using a critical discourse analysis of standardization processes, the limitations placed by health service standards on the education of health students are illustrated. A description is provided of the ways in which these standards have become self-evident claims of best practice, together with expectations of compliance by health professionals and health students alike. The authors argue that the biomedical paradigm and ideology of economic rationalism have influenced what constitutes evidence-based 'best' practice standards, with a subsequent subordination of humanist discourses. The authors conclude by encouraging the development of innovative pedagogies for practice-based learning that promote critical thinking about the structures that support practice as well as the practice itself.

Keywords Health · Education · Practice-based learning · Standards · Standardization · Discourse · Ideology · Critical discourse analysis

Introduction

This chapter provides a critical discourse analysis of the standards and processes of standardization that guide the provision of health services and health education in contemporary Australia. The analysis includes an examination of the dominant discourses, cultures and ideologies that shape the standards; and also the way in which standardization positions health professionals to support a 'one size fits all' approach to practice and, thereby learning. It is argued that this 'one size fits' all approach is framed by the biomedical paradigm, infused by a culture of evidence-based best practice and, ultimately, driven by the ideology of economic rationalism.

This view is contrasted with humanist principles of service, care, personal transformation and intellectual freedom, which have been more traditionally associated with health and education contexts across the Western world. Consideration is given

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_5

to the tensions that arise from the coexistence of these divergent paradigms in the health and education contexts. A particular focus of the discussion is the affect of these tensions upon health students who undertake practice-based learning as part of their education. It is suggested that students are positioned—constrained—by the standards, as are health professionals. Consequently, further support is harnessed for the dominant power structures that frame these contexts, resulting in limitations for learning and professional growth.

One means of resolving the tensions that are generated by the standardization of the health services and health education contexts is through engagement in critical questioning of the dominant discourses that comprise them. This services to raise awareness of the forces and influences that may be otherwise invisible; and has the potential to transform the way in which learning is achieved in the workplace.

Critical discourse analysis

In this chapter, 'discourse' is defined as a pattern of meaning that organises or structures the socio-cultural contexts, symbolic or otherwise, in which people are located (Parker 1999; Van Dijk 1997; Van Dijk et al. 1997). It is discourse that produces social and cultural order by shaping 'reality' through a process of debate, negotiation, modification, agreement—or, alternatively, manipulation and coercion. Discourse, then, is constitutive in function, giving rise to practices or processes that are accepted unquestioningly by a society or culture. The constitutive nature of discourse is also linked to the notion of ideology, which is defined in this chapter as the patterns of meaning that are more political, economic and systemic in orientation, and organize or structure contexts accordingly (c.f. Althusser 1971).

To exemplify, the discourse of humanism in the health context has traditionally shaped understanding of the way in which health services are provided. This is suggested by the broad person-centred definition of 'health' provided by the World Health Organization (WHO)—a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (WHO 2012). Almost universally, the construction and representation of the terms health 'care' and health 'services' is compassionate and supportive in nature (e.g. Bradshaw 2011; Warner 2011). Likewise, and with regard to education contexts, humanist principles and aspirations have been historically linked to academic institutions and higher education, with a particular focus upon critical thinking, creativity and personal transformation through learning (Chaput 2008; Kaldis 2009; Pratt 2008). The principles that frame the discourse of humanism include the intrinsic and essential worth and dignity of the person, together with the families, communities or cultures to which this person belongs (Said 2004). Broadly speaking, humanists aim to reduce suffering and pursue freedom, equity and equality for all, evaluated in terms of autonomy, beneficence, nonmaleficence and justice (Beauchamp and Childress 2009).

In contemporary Western health contexts, however, notions of humanism are tempered by the scientific and economic paradigms. It will be argued in later

sections of the chapter that the discourses that shape these scientific and economic paradigms have transformed humanist notions of a health 'service' from an act of helping others to achieve physical, mental, and social well-being into a business transaction or aimed more specifically at curing a disease or reducing disability or infirmity. This business transaction will be referred to in this chapter as a 'treatment service'. The shift in meaning from an act that is more person-centred to a more commercially-oriented proposition is defined in the chapter as ideological because the patterns of meaning generated by these discourses are political and economic in orientation. This has implications for health systems across the Western world.

Connected to the influence of ideology is the power-knowledge nexus of discourse. This notion was described by Foucault (1972) and involves the socio-politico-cultural and institutional interactions that frame social hierarchies according to the influence of hegemony. The power-knowledge nexus is an outcome of the mechanisms by which professional and/or institutional power is wielded—for example, the people, groups, cultures or institutions that hold the most power are those most able to control the minds, behaviours or practices of others (c.f. Lee-Aschcraft and Mumby 2004; Thornborrow 2002). To illustrate, health institutions exercise power over health professionals by requiring them to comply with prescribed standards when delivering a service. Employees who do not comply with these standards risk loss of employment and financial or other disadvantage. In the same way, academic institutions control the discourses that shape the provision of higher education and, as a consequence, the ways in which students develop their knowledge, practice and professional identity. The values acquired by students in the course of their education may at times clash with the values that shape health institutions. The resolution of this clash will depend upon the knowledge of the student, together with the hierarchies of power that dominate the context in which the student is located. The power-knowledge nexus in the health and education contexts, together with the influence of hegemony, is discussed in greater detail in the sections that follow.

One means by which questions can be asked of discourse, ideology and hegemony is 'critical discourse analysis' (Van Dijk 1997; Van Dijket al. 1997). This analytical approach enables a critiquing of the influences that shape the practices, processes and institutions that operate within or as part of a context or culture. Critical discourse analysis can be undertaken at the micro, meso or macro levels of interaction or experience, and may include examination of the patterns of meaning in the written or oral texts that are generated by particular groups or institutions; the critique of discursive practices, including the processes by which texts, in their variety of forms, are produced, distributed and consumed; and/or the consideration of broader contextual or institutional practices, processes or cultures. It is important to note that the conduct of a critical discourse analysis is not confined to one method alone, but rather proceeds according to need—for example, the need to demonstrate the link between texts and contexts, processes or institutions; or to examine the power relations that are reflected, reinforced and also developed by these links (Scollon 2001). A hallmark of critical discourse analysis is an unpacking of the complex, interactive and often invisible forces at work across the micro, meso and

macro levels of experience; and the affects of these interactive and invisible forces upon the people, systems and institutions involved (Fairclough and Wodak 1997).

The analysis undertaken in this chapter is largely macro level in focus, with some reference to the meso and micro levels. This approach provides a means of questioning institutional practices, processes or cultures, in particular those that are constructed or positioned in a given context as being above reproach (c.f. Alvesson and Karreman 2000). Two practices will be reviewd: (1) the standardization of the health and education contexts; and (2) the practice-based learning undertaken by students in the health context. Questions to be asked of the processes of standardization and practice-based learning include:

1. How does the implementation of the standards that frame the health context affect the practice-based learning of students?
2. What action can be taken by students to challenge the hegemonic forces that may undermine their practice-based learning?
3. What can academics and health professionals do to support this action?

The analysis commences by considering the place of standards in the health and education contexts, together with the forces that have shaped these standards.

Standards and standardization

The terms ‘standards’ and ‘standardization’ represent the rules, guidelines and processes by which the safety, consistency and quality of a product, practice, activity or event is supported (International Organization for Standardization 2011). In the health context, the need for standardization is viewed as self-evident—that is, it is the ‘obvious’ means by which the integrity of the health services is guided (e.g. Segouin et al. 2005; WHO 2002). The implementation of standards in this context is achieved through the systems of clinical governance that regulate or oversee this context; and include the structures, policies, and lines of management that have become commonplace in the provision of health services across the Western world (Braine 2006; O’Connor and Paton 2008; Tait 2004).

Closely aligned to the standardization of health services are the discourses of ‘best practice’ and ‘evidence-based treatment’. These discourses are products of the biomedical paradigm, which is built upon a cause-and-effect explanation of ill-health (Holmes et al. 2006). The cause of ill-health is posited as biological or physical in origin; the effect is disease, disability or death. It is argued in this chapter that the biomedical paradigm provides quite particular solutions to the universal problem of ill-health, with these solutions developed out of a scientific paradigm that includes systematic observation, measurement, experiment, formulation, and testing (c.f. Wieland et al. 2011). The results generated from this process gives rise to verifiable and replicable evidence, which, because of the systematic rigour by which it is produced, is positioned at the high-end of the health research hierarchy (Cochrane Collaboration 2011). In turn, higher-level evidence provides the means

by which the best interventions or treatment services are developed. This stands in contrast to the health practice developed from research evidence that has been generated by qualitative or more humanist approaches to the problem of ill-health, with these approaches positioned at the lower-end of the scientific research hierarchy. The evidence-based best practice culture that has developed out of the biomedical hierarchy of knowledge is now an integral part of the standards that frame contemporary health services and treatment interventions across the Western World (e.g. Arndt and Bigelow 2009; Segal and Murphy 2011).

In the education context, there has been a similar acceptance of the need for standards and the drive to standardize. For example, the Australian Government posits the standardization of education as the formal, transparent and credible systems of quality assurance that help to guarantee a successful future for universities across the nation; and the means by which quality outcomes for students and the wider community are facilitated (Department of Education, Training and Youth 2000). Similarly, government organizations such as the Tertiary Education Quality and Standards Agency (TEQSA) claim many benefits of a "standards-based quality assurance framework" (Australian Universities Quality Agency 2010, p. 11). These benefits include the achievement of outcomes that are related to, for example, curricula, processes of assessment, giving and receiving of feedback, and benchmarking with other academic institutions.

As with the systems and structures of clinical governance in the health context, the standards-based quality assurance framework that guides the delivery of education by academic institutions is implemented by way of prescribed policies and protocols; and the conduct of regular audits or reviews by regulatory or governing bodies to ensure the compliance of academic institutions (Findlow 2012; Wong et al. 2012). The success of these processes in the health education context can be demonstrated in a number of ways. For example, the integration of the biomedical paradigm into schools of allied health and nursing is suggested by the nesting of these schools into the faculties of science or applied science rather than the humanities. Similarly, health students are taught to recognize and utilize higher-level research evidence and best practice as a means of developing and gauging the quality of the skills they develop as part of their learning (Oliver et al. 2008).

The centrality of standardization in the health education context is also demonstrated through the processes that support the opportunities provided to health students who undertake practice-based learning. In this chapter, practice-based learning is defined as learning that is achieved by students through practical experience that enables the development of the practice skills required to work professionally (Kronenfeld et al. 2007). This experience may be gained in workplace or simulated workplace contexts. Practice-based learning also includes the learning achieved through the integration of industry feedback into academic programs (Bridges et al. 2011). Some commentators have described practice-based learning as having a greater relevance and authenticity for students than theoretical learning (e.g. Scarvell and Stone 2010). Practice-based learning has also been represented as a means of supporting the development of students who are 'work-ready' upon graduation and able to 'hit the ground running' as they take on paid employment

(Allan et al. 2011; Postgraduate Medical Council of Victoria 2011). One way this work-readiness is achieved is through the standardization of opportunities for practice-based learning provided in the health and education contexts.

For example, the national government in Australia has established Health Workforce Australia, a national government organization that oversees the development and implementation of consistent and accessible training plans and work programs for allied health, nursing and medical students. In addition, research funding has been made available to support the development of a consistent approach to practice-based learning (e.g. Hungerford and Bourgeois 2012; Hungerford et al. 2010). Ensuring the quality of the experience of practice-based learning in the health context, then, has become an important focus of government and academic institutions alike.

In summary, standards and standardization are now a significant focus of health services and higher education in Australia. The forces that inform these standards include the need or demand for practices and processes that are safe, equitable, consistent and of a high quality. Also important are the systems and structures of governance that oversee or regulate the standards in the health services and higher education contexts. Specific to the health services context, the biomedically-framed discourse of evidence-based best practice plays a dominant role in shaping the standards. Likewise, in the health education context, the principles and practices of biomedical science have also been integrated into the curricula to provide students with the capacity to gauge the quality of their practice. Additionally, organizations such as Health Workforce Australia are in the process of standardizing training plans and programs to ensure the development of quality placements for students who undertake practice-based learning in the health services context.

The similarities between the standards and process of standardization in the health and education contexts suggest a number of benefits for health professionals, health students and also academics. But no less do they suggest challenges. These benefits and challenges are the focus of the next section, in which questions are asked of the drive to standardize the health and education contexts.

The Benefits and Challenges of Standardization

Perhaps the most important benefit of the implementation of standards that have similar aims in different contexts is the shared or common ground that is achieved to support those who move between these different contexts. For example, common ground has the potential to support students who move between university and workplaces to undertake practice-based learning. Likewise, common ground may assist students as they graduate and move on into employment by reducing the possibility for confusion and error that can occur as a consequence of the change. Finally, shared standards provide a means by which the quality of services can be measured across and between services (Spencer and Walshe 2009).

The challenges suggested by the implementation of similar standards are less apparent. One reason for this lack of clarity may lie with the unquestioning

implementation—perhaps, institutionalization—of standards in a variety of contexts, together with an apparently universal acceptance of the benefits of these standards. In Australia, this is demonstrated by the legislation that guards the standardization of the health context, including human rights acts, occupational health and safety acts, health professional acts, privacy acts and poisons acts. Likewise, standards of health practice are regulated through government departments and professional bodies; and mandated by employing institutions to enable accreditation.

Even so, it is important to consider the outcomes of these many systems and structures, processes and practices. Indeed, according to Bail et al. (2009), these very systems and structures have given rise to a culture or "web" (p. 1457) of obedience that constrains health professionals and the way they practice. Employees are required to comply with the standards or risk the consequences, including criminal proceedings, unemployment, deregistration by professional bodies and social disadvantage. Standardization has thus become an important means of supporting the established hierarchy, together with the knowledge-power nexus that is supported by that hierarchy. For example, the biomedical standard is upheld as 'best'. As a consequence, other ways of seeing and doing—alternative or complementary approaches to health care, such as strategies to reduce suffering, prevent illness, promote good health, tolerate diversity, uphold freedom of choice and pursue personal growth and wellbeing—are positioned at second best.

In a pluralistic society however, this dichotomy is essentially problematic. For example, when a single discursive formation is constituted as 'best' and compliance to this standard is mandated as part of a united socio-politico-cultural enterprise, a 'one size fits all' develops. In the health services context, one solution dominates for the universal problem of disease and death—the biomedical solution. In the health education context, health students are educated into perpetuating this single discursive formation. Not only does this provide a limited view of health and illness, it also leads to the stifling of the "creative, inquisitive, risk-taking behaviors" (Muff 1988, p. 200 cited in Watson 1999, p. 37) that enables students to learn and mature as a health professionals.

These issues are discussed in more detail in the next section, which provides a brief analysis of a selection of key terms utilised in the standardization of contemporary health services. As part of the analysis, the patterns of meaning that emerge from these key terms are considered, along with the socio-politico-cultural realities they reflect. Of particular interest are the discourses of business that shape the standards and the way these discourses have harnessed the power of the biomedical paradigm to serve the purposes of the market economy.

A critique of the standards

As a starting point to this new discussion, consideration is given to the way in which the systems and structures of clinical governance, which oversee standardization in the health services context, are constructed and represented in a selection

of texts. This analysis provides a means of critiquing the discourses that shape the health services standards. For example, Braithwaite and Travalgia (2008) identify clinical governance as a means of improving "safety and quality and *manage risk* and *performance*; [developing…] strategies to ensure the *effective* exchange of data, knowledge and expertise; and the *sponsoring* of a patient-centred approach to *service delivery* [italics added]" (p. 10). In this description, the terms 'effective', 'service delivery', 'manage risk', 'performance' and 'sponsor' have been italicized because of the particular pattern of meaning they suggest. At one time, such terms belonged exclusively to the world of business. In the contemporary health services context, these terms have become increasingly commonplace.

To exemplify, Dr Margaret Chan, Director-General of the WHO writes "when money is tight, my advice to countries is this: before looking for places to cut spending on health care, look first for opportunities to improve efficiency" (WHO 2010, p. 4). As such, she links the notions of 'money', 'spending' and 'efficiency' to the delivery of health services. Likewise, the standards posited for the largest group of health professionals in Australia, Registered Nurses, include recommendations that health resources are utilized "effectively and efficiently" (Australian Nursing and Midwifery Council 2005, p. 6), terms with traditional links to the management of financial resources. In the same way, health managers are urged to demonstrate fiscal responsibility by meeting "key performance indicators" to "measure …cost-effectiveness" and "efficiency", and oversee the allocation of "scarce resources" between "competing priorities" to achieve pre-determined "outcomes" (e.g. National Health and Hospitals Reform Commission 2009, p. 7, 14, 17, 104, 117). Moreover, it is claimed, the standardization of the health sector has become necessary to meet a community demand for services that provide for the most "effective use of resources" (Department of Health and Aged Care 2001, p. 9). At the international, national, management and practice levels, then, links can be made between the safety and quality of health services, treatment interventions and notions of fiscal accountability.

This trend is perhaps not surprising when considered alongside the health budgets of Western nations across the globe. For example, current Australian spending on health is similar to that of other nations belonging to the Organization for Economic Cooperation and Development (OECD) and comprises some 8.5% of Gross Domestic Product (GDP) annually, with 67.5% of this funded by tax-payers (OECD 2010). In 2007 the United Kingdom expended a similar proportion of GDP, of which 82% was public money; while New Zealand spent around 9% of GDP, of which 80% was tax-payer funded. In comparison, the United States expended a massive 15% of GDP on health, of which 45.5% was public money (OECD 2010). These figures alone provide a telling indication of the cost of providing health services in the Western world.

But perhaps even more significant is the move away from representing the person who receives a treatment intervention as the 'patient', to the person who purchases a treatment service as the "consumer" (e.g. Department of Health and Ageing 2009, p. 10). Traditionally, the patient has been a construct of some passivity—a body

upon which the expert health professional acts (Keleher and Murphy 2006). In the twenty-first century, however, consumers are constructed as active agents capable of making their own decisions and choices about the treatment interventions they purchase (Iriart et al. 2011; Owen 2009). Significantly, this trend is strongly supported by governments and policy-makers, with consumer-focused approaches to treatment becoming a new standard for health services (e.g. Australian Commission on Safety and Quality in Health Care 2010a, 2010b). The benefits claimed include an increase in compliance with and the effectiveness of treatment programs, and improvements in the levels of satisfaction for consumers with the treatment services provided (Corrigan and Ralph 2005). As such, the contemporary consumer is represented as both healthier and happier than the traditional patient.

Similar trends are also evident in the higher education context. For example, the internationalization of Australian universities has been touted as contributing over AUS$ 7 billion in export income annually to the national economy from overseas students who enroll in tertiary courses (Birrell and Smith 2010). Indeed, higher education as a commodity on the global market has given rise to an industry upon which many academic institutions now depend to remain financially viable (Office of the Vice Chancellor, University of Melbourne 2011). On the other hand, and still in Australia, providing higher education to the local populations is viewed by some as a fiscal "burden" (O'Keefe, 16 Jan 2008); while further afield, productivity dividends are now required of tertiary institutions by governments across the OECD, with these dividends linked to the continuation of funding (Marginson et al. 2007). Indeed, texts related to the contemporary education context abound with allusions to the total annual global expenditure for professional education and the average cost per graduate (Frenk et al. 2010). It would seem, then, that the production of the university graduate comes at a cost.

But such trends also raise a number of questions. Most notably, is it possible for higher education to become a commodity to be purchased without compromising the humanist principles with which academic institutions have been traditionally linked? Likewise, how can the biomedical paradigm, which is built upon the scientific method, sit comfortably with notions of consumer satisfaction and health as a commodity? While the former upholds notions of objectivity, high-level research evidence and best practice, the latter is concerned with subjective perceptions about a service and the purchasing of the consumer. This suggests an incongruency—one that is further highlighted when considered alongside the call by Goodwin and Happell (2008) for a more substantial body of research to support the benefits of consumer participation and high levels of consumer satisfaction. Significantly, while much is claimed of such participation, little has been substantiated. How, then, can consumer-centric approaches sit comfortably alongside evidence-based best practice or interventions? Such questions are considered in the next section, in which the implications of the coexistence of the biomedical paradigm and consumerism in the health services and health education contexts are discussed.

Addressing the Questions

In the preceding sections, a critical discourse analysis of the standards that currently frame the health services and health education contexts in Australia identified four main patterns of meaning. The first of these patterns suggests the need for and benefits of standardization is self-evident or above reproach. Standards are represented as the means by which the safety, consistency, equity and quality of services are supported. The second pattern reflects the connection between the biomedical paradigm, the culture of evidence-based best practice or treatment, and the governance or regulation of standards in the health services context. The dominance of the biomedical paradigm in this context has also had a strong influence upon the development of health curricula currently being taught in academic institutions across the Western world. The third pattern of meaning demonstrates links between the standards and the requirements to comply that have been placed on health professionals and academics. At the same time however, compliance with the standards has served to limit practice and learning in the health and education contexts to a single paradigm. The final pattern identified is economically-orientated and included notions of fiscal accountability, the minimization of the cost of a treatment intervention in the publicly-funded system, and the maximization of profits for the health industries.

It was also noted that the co-existence of these patterns in the health and education contexts suggests a number of tensions. Perhaps the most significant of these tensions is the incongruence between the biomedical paradigm, which shapes and governs the standards, and the economically-orientated, consumerist approaches that are gaining increasing currency in the health services and health education contexts. How can a paradigm that is shaped by the scientific values of best evidence and best treatment co-exist with an approach that promotes notions of health as a commodity? One answer to this question is that the pharmaceutical corporations, health insurance companies and other industrial institutions have commandeered the biomedical paradigm and, by association, the standards by which the health and education contexts are framed. The biomedical paradigm has provided an opportunity for corporations, companies and institutions to generate profits by providing a consumer-focused approach to health. Medical and surgical interventions require equipment, instruments and tests. Pharmacological interventions require pharmaceutical products. The greater the number of medical, surgical and pharmacological interventions prescribed, then, the higher the profit margin for the industries of health (Angell 2004; Moynihan and Cassells 2005).

The significance of the mutually supportive interaction between the biomedical paradigm and consumerism cannot be under-estimated. Indeed, to do so would be to bow to the ideological influences that drive the economic agenda. As noted at the beginning of this chapter, groups or institutions that wield the most power are those that are most able to control or influence the minds, behaviors or practices of others (Van Dijk 1997; Van Dijk et al. 1997). In a democratic society, such control or influence is achieved through socio-politico-cultural forces, including those generated

by the market economy. It may well be suggested then, that the forces that drive the biomedical paradigm and the consumer-focused approach to providing a treatment intervention are ideological in nature.

Economic rationalism is an ideological force based upon the belief or perception that markets and market forces can and will deliver their own economically rational solutions to issues that could otherwise be addressed by governments or the socio-cultural order (Pusey 1991). In this chapter, it is argued that economic rationalism is expressed in the health context in Australia as a force that has harnessed the discourse of evidence-based best practice or treatment to provide a biomedical/economic solution to the universal problem of disease and death. This includes utilization of the standards and processes of standardization to drive the biological and economic agenda. In short, by requiring health professionals to comply to these standards, biomedical knowledge-power structures are perpetuated, tax-payer funding is guarded and the profits of the health industries are maximized.

In the health education context, economic rationalism has had a similar influence. Take for example the experience of practice-based learning. In the past, novices were inculcated with the knowledge and practices required to become productive employees through vocational apprenticeships. This tradition provided industries or employers with low-cost labour and also the opportunity to begin the selection process of future employees. Those who demonstrated superiority in workplace learning—or, perhaps, the greatest capacity to comply with workplace rules or standards—were retained. In the health education context, however, this process was viewed as industry-orientated and restrictive of the development of high quality health professionals, with the eventual shift of the training of nursing and allied health professionals into the universities was heralded as a positive step forward (Department of Education, Training and Youth Affairs 2001). Today, practice-based learning for health professionals is promoted by government, industrial and academic institutions alike as an innovative means of extending the formal or more academic process of learning into the workplace (e.g. Alexander 2000; Business Council of Australia 2008; Bradley et al. 2008; Department of Education Science & Training 2002; Precision Consultancy 2007; van Damme 2001). Students temporarily leave the university context to enter the occupational context as learners. Many commentators have welcomed this development, viewing it as providing the means by which students can access unfettered opportunity to learn in the workplace without the constraints that are inevitably generated by contracted employment (Marquis et al. 1993). Others however, have argued that this so-called innovation is fundamentally flawed, with suggestions that the universities have sold out to become yet another vehicle to support the profit-making of the health industries with students required to work for no wage alongside paid professionals (e.g. Hughes 1998; Rautio et al. 2005).

Indeed, to some, universities have moved from being key players in promoting humanist notions of higher learning, critical thinking and personal transformation, to take on a focus that is dominated by the demand that they produce a productive workforce (e.g. Lomas and Tomlinson 2000). This view is supported by the way in which academics are now encouraged by university administrators to form

meaningful partnerships with industry stakeholders and build connections to bridge the traditional notion of a divide between academia and work, theory and practice (Smith et al. 2006; Stone 2010). As already noted, students are pushed to 'hit the ground running' as they complete their courses and move into paid employment (Allan et al. 2011; Postgraduate Medical Council of Victoria 2011). Moreover, while priority is given by industry stakeholders to the graduate who is work-ready, universities with the highest proportion of students who have found employment upon graduation are likewise rewarded (Hobsons Australia 2011). In contrast, the enrichment of the human condition, including humanist notions of critical thinking, creativity and personal transformation through learning have taken a back seat to the driver of economic rationalism and the hegemony it supports.

But perhaps of most concern is that these arguments do not provide a ready solution to the questions raised in earlier sections of this chapter about the incongruence between the biomedical paradigm and consumerism in the health and education contexts. Health professionals and health students continue to comply with the standards, including the discourses, cultures and ideologies that comprise these standards, and so are constrained in their practice and learning. Academics continue to integrate the principles of evidence-based best practice driven by economic-rationalist imperatives into health curricula. Processes that are accepted as self-evident remain unchallenged.

And yet there is hope. This is because hierarchies of power are seldom absolute (Silverman 2003; Van Dijk 1993). Indeed, the influence wielded by any group or institution will be inevitably mediated by a variety of social, political and cultural factors. While one group or institution may dominate and thereby ensure acceptance and compliance, the subordinate group or institution may also choose to resist.

This resistance is discussed in the next section of the chapter. The discussion includes the positing of a way forward for health professionals, health students and academics, who support the notions of personal growth and intellectual freedom, including creativity.

Embracing the opportunities

As noted previously, humanist constructions of health have traditionally included notions of care and service in the context of compassion, support and beneficence; while the humanist principles and aspirations that have been linked to academic institutions include notions of higher learning, critical thinking, creativity, personal transformation and intellectual freedom. In contemporary society however, the health services and health education contexts have witnessed the subordination of these principles through the privileging of the biomedical paradigm driven by the ideology of economic rationalism. The health and education contexts are now dominated by standards that are framed by notions of measurable evidence, fiscal accountability, health as a commodity, and the market economy. Professionals, students and academics located in the health and education contexts are

shaped—constrained—by these standards. To challenge the hegemony is to risk financial and social disadvantage.

But for those who question the benefits of health services driven by economic rationalist imperatives, there is a need to consider the opportunities as well as the challenges. A starting point to one such discussion lies at the door of the academic institutions. In light of their history of upholding notions of critical thinking and personal transformation through learning, universities are in a prime position to take the lead. Shaping the knowledge, values and perceptions of students has the potential to influence, even change the actions or behavior of those students (c.f. Argyris 1999; Senge 2006). This in turn has a similar potential to influence the actions or behaviours of those with whom the students interact.

One means by which academic institutions can take the lead is by answering the call of Billett (2002) to develop a meaningful "pedagogy for the workplace" (p. 28)—that is, a theory to explain how learning is or can be achieved in the occupational context. Such a pedagogy would provide an explanation of how to support the student to develop the capacity to think, question and reflect critically upon workplace practices and processes, including the discourses and cultures that frame that workplace. This pedagogy would also incorporate an explanation of how students can be supported to utilise these skills in thinking, questioning and reflecting in the context of practice-based learning to enhance, not only their own learning but also the learning of those around them.

For example, critical questioning may be encouraged in the workplace through the implementation of interactive and mutually supportive conversations that involve health professionals, health students and academics together as they consider the forces or influences at work. Questions to be asked of one another may include, what are the dominant discourses and ideologies that frame the workplace? The standards? How do these dominant discourses and ideologies affect the way in which health services operate? The individual practice of the health professional? Student learning? Also important would be consideration of the notions of relevance or authenticity in learning, in particular practice-based learning. For example, why is practice-based learning viewed as more relevant or authentic? How are notions of learning shaped by the purposes of the health industry and the competing discourses, cultures and ideologies that construct, dominate and control the workplace? Ideally, any such discussion would also include a critique of the standards and standardization that frame that workplace. By asking such questions, and testing and exploring the answers, the health context could be transformed into a place where learning is both theoretical and practical, where the two become one in an ongoing or lifelong learning in which health professionals, health students and academics alike participate.

Of course, for many who are faced with the demands of future or current employers—demands that include accepting and practising in accordance with the standards—such conversations may seem irrelevant and inauthentic. For this reason, it is important that academics consider how they can support health students and health professionals alike to recognise the socio-politico-cultural lenses that have been created by the contexts in which they are located, together with the way

in which these lenses influence their worldview. Awareness of these lenses will also support the health student to develop the knowledge and skills to be more able to embrace notions of pluralism, including the diverse health needs of people and communities. A single biomedical approach to the provision of a treatment intervention cannot—and should not—be upheld as the universal means by which the needs of all will be met. On the one hand, biomedicine has an important place in the health context—indeed, over the last 200 years it has provided an important solution to the issues of illness, with significant reductions in morbidity and mortality across the Western world (e.g. Porter 1997). On the other hand, biological processes are only one of the many aspects of personhood, only one of the many contributors to the health and wellness of people, community and nations. Other facets include the physical, mental, social, cultural, emotional, sexual, spiritual, functional, occupational and recreational. It is important then that each of these aspects of personhood be considered together with 'other' perspectives when providing healthcare, including the person-centred, complementary, and Eastern approaches.

One way by which academic institutions can take the lead in questioning the standardization of the health and education contexts, including the discourses and ideologies that shape the standards, is by taking on a mediatory role. There is the potential for contemporary educators to bridge the traditional divide between academic and industrial institutions, between theory and practice, between empiricism, economic rationalism and humanism by supporting the people who are located in these contexts. These people are well placed to question accepted ways of knowing and doing. Likewise, with support, these people are well placed to consider the alternatives, to question that which has been constructed as self-evident, to reflect upon the way in practices, processes, systems and structures, and continue this reflective activity into workplaces.

Lastly, contemporary educators can also take the lead by considering ways in which the common ground they share with the health services can be harnessed to support the processes by which the tensions are moderated. This common ground is found in the standards themselves and include the common aims, common systems and structures of governance, and also the common discourses by which they are framed. One outcome of this common ground is the support it provides to students who undertake practice-based learning, enabling a seamless move between the academic institution and the workplace. But perhaps most importantly, this common group allows new meaning to be integrated into the standards. Indeed, by taking the lead to question the dominant forces at play, today's universities can ensure that humanist notions of care, personal transformation and intellectual freedom have a presence or place in these contexts. Common standards provide a means by which these important values can retain their place in the health services and health education contexts and, in so doing, transform the cultures that frame these contexts into locations where notions of humanism are embraced.

Summary

This chapter provided a critical discourse analysis of the standards and processes of standardization that frame the provision of health services and higher education in Australia today. A particular focus was the way in which the standards have impacted upon the practice-based learning undertaken by health students. It was shown how the need for these standards is constructed as self-evident, with compliance to the standards an expectation of employers that has been placed upon health professionals and also health students who undertake practice-based learning. In addition, it was shown how the standards are framed by the biomedical paradigm, shaped by a culture of evidence-based best practice and driven by the ideology of economic rationalism. Health has become a business commodity that is constructed and represented as a means of meeting the needs and desires of the consumer. Likewise, health education is driven by economic considerations, including the need to produce health workers to support the health services and associated industries.

It was argued in the chapter that the domination of the biomedical paradigm and the economic rationalist agenda in the health and education contexts has led to a subordination of humanist discourses. These discourses include notions of care and service framed by constructs of compassion and beneficence; and the intellectual, personal and creative growth of the health student. For those who support humanist principles, subordination to the economic rationalist imperatives provides a number of challenges. With a view to meeting these challenges, it was suggested that academic institutions work at developing a pedagogy of the workplace that involves supporting health students, health professionals and contemporary educators to think critically about the way in which discourse, culture and ideology shapes the workplace and their practice. This would involve asking the challenging questions of one another about the systems, structures and approaches that are constructed and represented as 'best' or self-evident in the workplace. It would also involve seeking common ground that will enable a way forward that is framed by more humanist notions of care, personal transformation and intellectual freedom.

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Chapter 6
Professional Standards in Curriculum Design: A Socio-Technical Analysis of Nursing Competency Standards

Laurie Grealish

Abstract The emergence of standardization as an approach to govern occupational groups and their work implies assurance of quality, or in some occupations, safety, of the services provided. Nursing competency standards gained support in the late twentieth century through the alignment of interests of regulatory, management, education, and research social worlds. Whilst these standards provided an assurance of consistency across a range of higher education institutions and health practice settings, the 'work' of producing competence remains hidden. In this chapter, the use of competency standards to produce 'evidence' of competence as an educational outcome for nursing students and graduates is explored. The systems and processes designed to assure a competent nurse consume an alarming quantity of resources, during a period of efficiency and effectiveness, leading the author to question the long-term sustainability of this approach in the education of nursing students.

Keywords Standardization · Competence · Efficiency · Regulation · Professional education

Introduction

In the professions, particularly the highly visible professions of health and education, national standards are used to regulate entry. The development of professional standards has made professional practice more knowable and thus, governable by regulatory authorities that are responsible for the safety of the communities which they govern. Professional entry standards have been adopted in higher education institutions and are used to shape curriculum design, including the assessment of students.

In this chapter, I show how professional standards technology can be considered a boundary object, providing a powerful technology to shape professional conduct at a distance while satisfying the requirements of the social worlds of government,

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_6

industry, professional bodies, higher education, and vocational education for competent practitioners. In this way, the professional standards provide a gateway between cultures—to prevent excessive jostling so to speak. In order to *do* professional conduct in the academy, the professional standards document is translated by highly regarded experts into curriculum design, including assessment criteria for individual practice. The translation work is painstaking, involving pastiches and negotiations and endless mapping to demonstrate that the professional standards technology is operating well to produce effective graduates.

But the strength of a given technology is evident in how it is used in everyday practice (Suchman et al. 1999). Using the case study of competency assessment of nursing students in the workplace, how the messy and unpredictable business of everyday practice is 'assessed' as competence will be briefly described. How the professional standards document legitimates knowledge in practice-based disciplines such as nursing is explored.

This description concludes that although professional standards provide a useful technology to govern at a distance, the work of experts and others to 'do' the standards is made invisible by those very people who do the work and is therefore not accounted in higher education budgets. This chapter makes visible the toll of the translation work on universities and workplaces, in terms of human and other resources. Further, by describing the work of translating the professional standards technology into the practices of university curriculum and workplace learning, this chapter contributes to collective understanding of the implications of seemingly 'simple' technologies such as 'standards' to connect the interests of different cultures.

Literature Review

Higher education has become more accessible, with the Australian Government targeting 20% of undergraduate enrolments from low socioeconomic status students by 2020. Yet, the costs of higher education, particularly for those courses with a required work placement, such as in health and education, are escalating at a rate that may not be sustainable within current funding structures (DEEWR 2011). Understanding what attributes to these costs may assist in future planning and development.

Over the last twenty-five years professional standards have become increasingly important in higher education curriculum design. Professional standards are those standards developed by professional bodies in collaboration with identified stakeholders such as industry, higher and/or vocational education, and government to govern individual practice. Some occupational groups, such as those in health, have secured government support for professional regulation through statutory authorities. In these cases, the professional standards are a requirement for a license to practice the occupation. This chapter is concerned with those professional standards used to govern the graduates (individuals) of practice-based courses in universities.

Governance by standardization has become an international phenomenon (Kerwer 2005). Standards provide a regulatory framework that is not based on law but still requires individuals to align their actions to the standard in order to have access to the advantages of meeting the standard, such as employment and satisfying work. Governance by standardization affords a level of control of individual freedoms and is advanced by professional bodies as self-regulation to protect consumers of their members' services. The relative usefulness of professional standards is on the grounds that experts from their occupation have developed the standards (Kerwer 2005). In Australian higher education, the Federal Government advanced a competency-based approach to education, particularly work-based education, in the last decade of the twentieth century (Bowden & Masters 1993). Competence in practice was conceived as an individualized quality that must be enacted in order to be visible to others, and in the case of higher education, to assessors. The logic of standards technology is that: if the key features of practice could be observed and mapped and easily identifiable categories created as a framework for others to describe practice, then professional standards would help to make practice explicit and therefore communicable to other cultures (Star & Lampland 2009).

Competence is embodied; it can only be partially learned and assessed in the classroom. For those occupational groups with a tradition in practice-based education, workplace experiences were always an important aspect of curriculum design. But the question remained for employers and regulators: how to be sure that the universities provide enough practical training for newly qualified graduates to function safely in fairly autonomous situations? Since the introduction of professional standards, regulators, employers, managers, and professional leaders could agree on what constitutes graduate competence. Work-based learning provides the opportunity for students to practise their chosen occupation, with learning that is embodied and often unconscious, embedded in everyday practice and able to provoke a process of change (Fenwick 2008). Learning in the workplace requires tools other than those used in the classroom. Textbooks, powerpoint slides, journal articles, notebooks, paper, pens, pencils and laptop may remain but other materials are also involved.

Workplace learning "subscribes to a form of knowing that is context-dependent" (Corrardi et al. 2010). Work-life is intertwined with materials including but not limited to specialist technological devices, computers, software programs, equipment, architecture, and vehicles. The practitioner is like a musical director, manipulating these materials in light of the script or theory and other features such as what and who is present (physically and implied), awareness of politics and social aspects of the local community. This means that individual practice is highly diverse with potentially high levels of variation for action. The professional standards document provides an instrument to control professional autonomy; it provides a sub-script for practice, drawn from theory and practice and authorized by representatives of multiple social worlds.

Fenwick (2010a) describes the value of Actor Network Theory in the analysis of educational standards. By tracing the micro-interactions through which diverse actants are performed into being, the network of associations that exist across space

and time that produces policies, standards and practices can be revealed (Fenwick 2010a). In particular, how things are made stable through connections with other things and networks can be revealed. While the professional standards appear to be a robust technology that can measure professional practice, in the following case study of professional competence, how the professional standards are *made to work* in a network established by creative people is described.

This chapter adopts the practice lens (Gherardi 2009), in the style of Actor Network Theory (2005), with the aim to demonstrate how professional standards technology has become a powerful instrument to reduce the jostling between cultures by focusing on the practices involved. The use of competency standards in nursing is used to illustrate how the professional standards can work as a boundary object, make the knowledge of nursing in university curriculum explicit for other cultures, and legitimate nursing knowledge as a theory-methods package. The substantial effort invested to achieve these outcomes is rendered invisible to outsiders.

Professional Standards Can Work as a Boundary Object

Professional standards are established by committees of people who come from the social worlds of regulation, education, health management, research, professional bodies and in some cases consumers. Each of these individuals comes with an interest in the performance outcomes of a specific occupational group. These committees are also the same leaders charged with the implementation of the standards in their own social worlds. Through this system of standardisation of practice, not only are the individual cultures of each social world left reasonably stable, there is a relatively tight coupling of standard setting and usage. Kerwer (2005) calls this 'network standardisation' and argues that this form of standardization is theoretically the most effective approach to ensure accountability of professionals who enact the standards. For occupations seeking the status of 'profession', there is a high expectation of self-regulation (Larson 1977). Such regulation shapes the conduct of professionals, who often practice in autonomous situations, from a distance (Higgins 2004). Regulation through standardization holds individual professionals to account for their practice and practice decisions through a complex web of networks consisting of people, organisations, and objects.

Regulatory bodies use professional standards documents to communicate the nature of the expected conduct of its professionals. These standards documents exist at junctures between social worlds (Clarke 2005)—between industry, higher education, vocational education, and professional bodies. Each of these social worlds has a stake in the performance of individual professionals and use the professional standards to manage the performance of professionals in their worlds. In this way, the professional standards can be interpreted as a boundary object, shared by each of these worlds.

The concept of boundary objects emerged from research undertaken in the museum industry. Star and Greisemer (1989) studied the ways that people from the social

worlds of volunteers and researchers worked together, often without consensus, to develop a robust voluntary museum collection. The use of standard descriptions that were shared by the two social worlds provide interpretive flexibility, whereby the users differentiate the object through its use and interpretation. Boundary objects are 'translated' to address the multiple needs or demands placed upon them by the different worlds involved (Clarke 2005). Professional standards technology can be considered a boundary object for many social worlds with a stake in professional competence, with each world holding its own culture expressed as codes, habits, instruments and ways of understanding the world. As shown by Star and Griesemer (1989), these different cultures share the boundary object but the special meanings attached to it are different. As long as no one stresses the different meanings, there is only one boundary object that is fuzzy enough in its boundaries to absorb the tensions associated with difference.

Boundary objects are organic infrastructures that have emerged due to information and work requirements as perceived locally and by the groups who wish to cooperate (Star 2010). Standards generally function as boundary objects. The standards are useful in that through standards things are made to work together over distance and heterogenous metrics (Bowker and Star 1999; Star 2010). The standards document is an object that is weakly structured for common use and more strongly structured, usually through translations, in individual and site tailored use (Bowker and Star 1999).

In the case of professional competency standards for nursing, the standards document is evidence of the regulatory authority's work to protect the community from poor performance and at the same time assumes a symbolic value as a way for nursing professional bodies to demonstrate their commitment to high quality health service, for nurse researchers to describe the nurse's role in healthcare and for educators to guide curriculum design for students.

The professional competency standards for nursing are issued by the Australian Nursing and Midwifery Council and contain a set of broad statements outlining nursing practices that constitute competence in nursing at the level required for Registration as a nurse (ANMC 2006). There are ten statements of competence organized into four domains:

1. Professional practice
2. Critical thinking and analysis
3. Provision and coordination of care and
4. Collaborative and therapeutic practice

For each statement there are up to four sub-statements and each of these will have between three and eight examples that intend to illustrate how the standard might be achieved. These statements are written in a broad way, designed to be open to local interpretation depending upon the purpose for using the competency standards as well as the context of that practice and who is involved in the process.

Graduates of nursing courses must demonstrate to the Australian Nursing and Midwifery Board that they have met these competency standards in order to be registered as a nurse in Australia. This is a regulatory requirement, enshrined in

national legislation. In order to be competitive in the education market, universities offering Bachelor of Nursing degrees have aligned with regulators to develop curricula that demonstrate the competence of each nursing graduate according to the national competency standards. This regulatory requirement, and the universities' interests in undergraduate nursing education, means that academic staff in universities must demonstrate to the regulatory authorities how students learn and demonstrate the competency standards during the course of their studies; to show that the graduates meet the competency standards and can therefore be licensed as nurses in Australia. The work of translating the competency standards in the university is outlined in the next section.

Curriculum Design as Translation Work

The ANMC Competency Standards are freely distributed to the nursing profession via the internet and email. Hard copies of the competency standards are distributed to universities and circulated to nursing students. Copies of the competency standards are reproduced in nursing textbooks aimed at first year nursing students (Levett-Jones & Bourgeois 2011). Once the competency standards technology leaves the regulatory organization's offices, it can be manipulated to do the work required by local communities, including academic communities.

In the university, the competency standards technology is used to map those learning activities and assessments where students can demonstrate that the competency standards are met. Not only are the students held accountable for competence, the university is also accountable for graduate competence. Regulatory authorities assure accountability through inspections.

The university is required to demonstrate to an accrediting body, in this case the Australian Nursing and Midwifery Board, that graduates of its program will be competent. The competency standards technology provides a boundary between the curriculum and the real world of practice. What must be 'acted' at the university to prepare a graduate able to practice in the real world? Curriculum activities are categorized or translated into the competency standards technology. Academics produce documentation of the curriculum activities and present these as evidence for inspection by the regulatory authorities.

The documentation is extensive and includes a burgeoning number of items as examples that each standard is met (see Table 6.1). This process leads to three to five year approval and substantial costs to the university each time the course is accredited. These indirect costs are invisible to outsiders and are outlined next.

The academics responsible for delivering the course prepare the accreditation report, gathering the evidence from a range of sources and crafting a discourse about the course in the form of a report. Prior to, or during the preparation of this report, there are many curriculum development meetings where what is included and excluded in the course curriculum is debated and negotiated. Colleagues from partner health agencies, professional bodies, consumer groups as well as representatives

Table 6.1 Documentation that is required for Accreditation of Courses leading to registration as a nurse

Audit report from national higher education authority (Australian Universities Quality Agency)	Overview of staff qualifications are areas of teaching
Examples of external awards or achievements	Examples of quality activities (eg external moderation)
University's organisational chart	Examples of performance on quality measures
University's quality improvement policy & procedures	Example of staff curriculum vitae
University's strategic plan	Examples of appointment of academic conveners for each unit of study
University's annual report	Examples of placement technology & practices
University's occupational health & safety for students and staff	Example student assessment guide
University's staff performance policy & procedures	Evidence of industry consultation in course design
University's policy and procedures for indigenous students	Evidence of industry consultation in monitoring clinical placements
University's equity policy	Evidence of student feedback collection & influence on curriculum
University's academic support services for students	Evidence of graduate feedback collection & influence on curriculum
University's on-line learning support system	Evidence of risk management
University's academic professional development program	Example of course information provided to students
Faculty process for recruitment and support of clinical supervisors/facilitators	Examples of staff research and publications
Faculty/university placement policy	
Faculty risk management policy & procedures	
Discipline's clinical record book/assessment instrument	
Map of course curriculum illustrating where competency standards are met	
Map of assessments over the duration of the course	

of the student body and recent graduates are consulted. The curriculum activities across the course are mapped to show the inspectors that the professional competency standards are enacted. In addition to the competency standards report, other reports and guidelines are produced by the university team as evidence that university processes are followed; that data is collected and used to improve practice, and to demonstrate that staff members are qualified to teach the content to nursing students.

Once the accreditation application is submitted, a panel of peers will review it. This will include academic staff from another university and clinicians from around Australia. The panel is selected following a set of guidelines for the appointment of panels. The panel will inspect the documentation and compare it to the accreditation standards. They will then visit the site of the course and interview the course proponents, their partners, students and others. The site visit is a formal visit and usually takes one day. The competency standards are translated by the inspection panel into questions at the site visit—the inspectors confirm that the curriculum resources are

adequate to produce a graduate who can practice in the real world. On completion of the site visit, the Chair and panel members work with regulatory authority staff to develop the report, including the summary of the meetings. The interview records are translated into additional evidence to support the claim that the university curriculum can produce graduates ready to work in the real world. Through the process of accreditation, the competency standards act as a boundary object to support the translation of highly localised university curriculum activities and resources into the documentary evidence required to demonstrate that competent graduates are produced by the curriculum to the national regulatory authority.

All of the data is then collated into one substantial report and submitted to the Australian Nursing and Midwifery Board. Through these processes, the evidence presented is the only evidence that is considered in the final decision. Crafting of the final report is important work for the university involved; staff must attend to every detail in their documentation. This is tedious work, checking and rechecking inclusions and logical order.

During the preparation of the report, Board appointed accreditation managers are coordinating the application process. They enroll academics and clinicians from every state and territory to participate in the review processes. The review of curricula reports is often voluntary unpaid work, supported by employers and the profession in general as necessary to demonstrate the professional status of nursing. This process is repeated for every course that leads to registration or enrolment as a nurse or nurse practitioner every three to five years.

The power of the competency standards technology is distributed across many curriculum activities and sites. It is this characteristic of the competency standards that renders it a robust technology; it is constantly enacted as policy and practice in localized settings (cultures). Actors from different cultural settings will judge the specific examples from a specific university cultural setting provided for the report. The potential for jostling cultures is high and yet, the technology is fuzzy enough in its boundaries, in the language used to express the standards, to absorb potential jostling and remain robust.

Through the process of accreditation, the standards technology connects the local practices to the global policy and produces competence (theory) in a practical form. The standards technology works to produce competent nursing graduates; albeit requires substantial effort by many people to make it work. As suggested by Star (2010), the magnitude of the invisible work involved in the use of standards is significant. In the next section, the work of assessing performance to determine competence, using the competency standards, is described.

Legitimation of Nursing Knowledge Through Assemblages of Competence: A Theory-Methods Package

The robust nature of professional standards, such as competency standards for nurses, can be attributed to the (re)enactment of competence as a theory-methods package. Law (2004) argues that rather than being coherent, identity, knowledge, politics

and action are heterogenous, located and irreducible. When we produce knowledge, we are all located somewhere in our actions and in our bodies; as such, we are in complex sets of relations that simultaneously have to do with theory or semiotics and practice using materials (Haraway 1988); where local knowledge is enacted as a theory (semiotic)-methods (material) package. Informed by actor network theory, competence (theory) is enacted across multiple clinical settings in combination with the competency standards technology (methods). In this section I describe the process of assessment that is required to show that graduates are competent to qualify as a nurse.

As described in the previous section, the competency standards are translated into learning outcomes, activities and associated assessments and these are produced in documents as evidence to demonstrate to the regulatory authority that the program of study is at a sufficiently high standard to produce competent graduates. This work involves academic staff, clinical staff and sometimes consumers. But this work is essentially undertaken in a board room, where the individuals from the different cultures will discuss, negotiate, debate, compromise and finally produce the framework (curriculum) for subsequent translation of the competency standards into teaching and assessment practice.

In order to *do* competence assessment, practice is transformed into the words of competency standards. Logically, the competency standards, once translated into learning outcomes and activities, could be translated into instruments of assessment—tools that can be shared by nurse assessors who work in teams to evaluate student performance. Then, the assessors could be trained to make judgments about the student's performance on a particular task. But the practice of nursing is broad, with high variability related to clinical settings, organizational philosophy, and availability of resources—each setting has its own unique culture. To develop specific instruments for every possible culture, every scenario would be laborious and so time consuming that there would be no time to teach or assess students. So a compromise is made. There is specific detail but not so much that the assessor is unable to exercise professional judgment.

In nursing, there are three distinct educational settings for teaching and assessment: the classroom, the simulated ward environment and the clinical placement. How student performance is transformed into the competency standards in each setting is briefly described. Through this description, the distributed and partial production of competence is illustrated. These partial productions are later collected and aligned into reports of competence or grades, where above a pass grade indicates competence and course completion indicates adequate competence to be licensed as a nurse.

In the classroom setting, students are required to perform competence as cognitive knowing, demonstrating theoretical knowledge and judgment. Competence is produced through assessment: examinations, case study analysis, essays, and presentations. The production of competence requires books, pens, paper, calculator, computers, software and the internet. The ability to recall important facts or to do drug calculations is assessed in examinations. These examinations are crafted by academic staff who have experience as nurses. The questions are valued, with some questions valued at one mark and others valued at ten marks. The academic staff

members decide what aspects of knowledge are important for competence. Students accept examinations as a way to demonstrate what they know and many study hard for the examination, spending long nights memorizing facts and practising calculations.

But to be a nurse, there are also specific skills required—theoretical knowledge is not enough. Practices to assist in the care of the body are required: bathing, eating, moving the body around to maintain circulation and range of motion. There are also physical assessment skills, where the student learns to use her or his body as an instrument; learning to percuss, palpate, and listen are critical skills. Being able to *do* nursing is important for students who are soon required to enter to field and learn about nursing with real, vulnerable patients—the practical knowledge required to *do* skills makes these students 'safe' in that they are less likely to inflict harm.

The skills are taught and assessed in a simulated ward environment. The simulated ward requires the same equipment as a hospital ward including beds, linen, bowls and basins, IV stands, fluids and giving sets, chairs, bedside tables and lockers, dressing packs, cleaning solutions, medication trolley with pill cups, needles, syringes, and simulated pills and so forth. At first, nursing students would practice their skills on each other. In some places, actors are brought in to be patients for simulations. More recently, there are simulated mannequins, with electronic devices to simulate breathing and pulse, fever, and different types of injury or illness. Simulated learning requires technical equipment and a 'patient' or more specifically a 'body' to produce competence. In this setting, teachers create scenarios for which there are standard solutions that students are expected to generate. An intravenous catheter has stopped infusing into the right arm, a person's breathing rate is becoming rapid, a surgical wound is red, swollen and sore—what to do next? There are also specific skills that must be practiced precisely—to change a wound dressing, to give an oral medication, to administer a subcutaneous injection, to calculate an intravenous drip rate, to wash a person's body while still in bed. These skills are not listed in the professional competency standards; rather the skills have been selected by academics with knowledge of the practical world of nursing. The skills are highly specific to the culture of the hospital setting. Practical knowledge in the skills laboratory is transformed into the language of the competency standards for the purposes of student assessment and course accreditation.

Once students can demonstrate competence in the simulated ward environment, they are allocated a clinical placement. This learning culture is very different to the classroom and the simulated ward environment—there is less control by the university of learning activities. In clinical placement, student performance is under constant surveillance by patients, nurses, other members of the healthcare team, appointed clinical supervisors (also known as facilitators but 'supervisor' will be used in this paper), and the nurse manager. There are highly localised practices that students are encouraged to complete—practices such as changing a tracheotomy dressing, administering an enema, counting the drugs of dependence, and many more. Students will participate in debriefing sessions with the supervisor and other students. Here students will describe and analyse their activities during the day using a strategy known as reflection and/or shared critical reflection. This is a group

learning activity but the supervisor also uses this session to assess individual student knowledge of practice. The supervisor will translatemultiple observations of the student's performance into a report using the framework and language of the competency standards.

Every time a student performance is assessed, a partial report of competence is produced—all of the standards cannot be produced in one action or procedure; there are many actions that nursing students will do. Selection of the actions to 'count' in the final competency report is informed by the competency standards technology. Selected student acts are 'counted' as competence by transforming the practice into written accounts that align with the language of the competency standards technology. The competency standards technology is thus enacted as competence embodied in an individual nursing student—a theory-methods package of knowledge is performed. The year one accounts are rendered invisible as the student progresses through the program to undertake more complex learning activities in years two and three and increasingly situated assessment tasks in the clinical placement. The legitimation of practical nursing knowledge is crafted and re-crafted into the form of competency standards in each subsequent clinical placement report.

In the clinical placement, when students are found to be not competent by the supervisor, there are consultations with academic staff, a learning contract is developed, and the student receives closer surveillance and feedback. Sometimes a new clinical placement and supervisor must be found so the student can be re-assessed. None of the work required to produce a satisfactory or competent performance is counted in the competency standards. And yet, this organizing and coordinating work is essential for the achievement of competence and to demonstrate the practical knowledge required for registration as a nurse.

Discussion

In the case study of nursing competence and competency standards use in higher education, the ways that professional standards can reduce jostling between cultures is demonstrated. The professional standards technology uses generalized language at the shared level making it ambiguous and able to be shared as a technology across different cultures. It functions as a boundary object—a shared language and meaning through which the cultures can successfully negotiate. In this case, it is used to negotiate the shared expectations of a graduate of a university course for the practice-based discipline of nursing.

Using the competency standards technology, nursing academics translate the curriculum into a substantial report in order to demonstrate that the curriculum will deliver competent graduates to outsiders, particularly regulators and employers. The translation work requires many people, meetings, discussions, debates and negotiations in order to arrive at a final curriculum document, ready to be submitted for inspection by the regulators. During this translation work, nursing practice is transformed. For example, the practical knowledge required to perform the highly

technical skills required to *do* nursing is transformed into competency statements about evidence-based practice or therapeutic communication. As Star & Lampland (2009) suggest, the competency standards can be used to make nursing practice explicit and communicable between cultural groups such as educators, regulators and employers.

In the workplace, student practice is observed by others, and in combination with students' reflections on their own practice, the supervisor makes a judgment about a student's competence. Logically, the supervisor's 'assessment' of competence is guided by the professional competency standards as if he or she is looking for indicators from the list of standards that can be counted and added up to determine competence. But if the gaze is focused on practice, and practice comes first, then the professional standards may be seen to work differently.

In this example, the supervisors are experienced nurses who recognize competent practice because they are expert practitioners. For the experienced practitioner, competence is produced (or not) in *each* of the student's actions. They provide feedback on each performance, indicating to the student that the performance is competent and if not competent, how to improve. The expert practitioners 'collect' these separate accounts of practice, which may be considered partial and incomplete, but then weave these accounts together as examples to demonstrate that the professional standards are met. As Mulcahy (1999) suggests, one state of matter is transformed into another; the embodied practices that incorporate human beings and local artefacts are transformed into words and units of competency.

Later, the practitioner adds these accounts of competence to other accounts to produce competence in the way that it is defined by the professional competency standards. Competence and competency standards are enacted in the workplace as a theory-methods package. As Law (2000) would suggest, ontology and epistemology are produced together. The professional standards remain robust—in this case the professional standards are general enough to produce competence is highly differentiated nursing practice settings.

In summary, the professional standards documenthas become a robust instrument and this quality is achieved through:

a. its usefulness as a boundary object;
b. its fluidity—able to be translated into local practices and to transform practices to produce the standards; and
c. the enactment of professional performance or competence as a theory-methods package.

Limitations

This analysis is drawn from the literature and the author's experience of working with professional standards generally, and competency standards in nursing specifically, as a clinician, academic, researcher and regulator over thirty years. The

purpose is to shift the gaze to focus on practice in order to understand the role of standards technology in minimizing the jostling of cultures between the university, workplace, and regulatory offices. As such, there is an ethical obligation to acknowledge that it is an account of professional standards that is produced through a particular kind of theory-methods package and as such, it is in itself a partial account of standards technology in practice.

Conclusion

The enacted nature of practice means that only partial accounts of competence are crafted during assessment of that practice using professional standards. These accounts are at once a description of performance in words (theory) and produced in this way as a result of method—the standards technology focuses on certain aspects of practice (from a diverse range of possibilities). Through these tedious processes and meticulous record-keeping, the social worlds of higher education, regulation and health service employers are momentarily stablised—there is agreement about what constitutes a competent graduate. For the professional standards to do the work of ensuring competence of graduates, the work of translation, assessment and aggregation is rendered invisible in the final account and therefore is difficult to reckon in higher education budgets.

Standards technology has become an important instrument for focusing the interests of multiple social worlds interested in graduates of higher education. Although it appears simple and easy to use, standards technology requires much negotiating work, translations, observations, moderation, re-translations. This work is rendered invisible in the final reports of competence produced for regulatory authorities. The flexible nature of the standards and the fluid, shape-changing nature in many diverse practice settings lends a robust quality. The professional standards technology appears to produce knowledgable and competent graduates (or at least not produce unknowledgeable graduates). Yet, for what appears to be a fairly simple technology, the professional standards take an incredible amount of effort and resources from many people and organisations to function. The professional standards have legitimated the knowledge required to *do* nursing, However, there has not been any research to indicate whether this labour intensive approach really improves safety or effectiveness of graduates. Given, the rising costs of higher education, it may be time to investigate the effectiveness and efficiency of professional standards as a key method to produce competent graduates.

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Chapter 7
The Role of Epistemology in Practice-Based Learning: The Case of Artifacts

Jordan Williams and Jackie Walkington

Abstract One way that higher education institutions attempt to promulgate and standardise practices around practice-based learning is through the use of artifacts: forms, workbooks, documented practices, narratives and the like. This chapter examines the functioning of practice-based learning artifacts. In particular, the chapter is concerned with understanding how artifacts, whose official purpose is to educate about and standardise practice-based learning, are used in positive ways to promote best practice while at the same time they may work against development and implementation of best practice. We employ Pierre Bourdieu's concepts of habitus, field and cultural capital to theorise the reasons for variations in the effectiveness of artifacts in standardizing practice-based learning activities. We bring Michel de Certeau's concepts of strategy and tactic to bear on understanding ways in which academics use artifacts to inform their implementation of practice-based learning.

Keywords Artifacts · Standardization · Cultural capital · Practice-based learning

We find that when artifacts are mainly focused on compliance (with policy, with standard practice, with law), actual learning can take a back seat. When designing practice-based learning artifacts, it is important to accept that the diversity of fields and habitus within higher education institutions will guarantee that artifacts will, like it or not, be translated into language and practices which are relevant to the fields of the implementers. Instead of viewing these as acts of circumvention or even rule-breaking, they should be viewed as legitimate and potentially productive translations which improve the relevance of practice-based learning. Bourdieu's concepts of field, social capital and habitus are tools to be used in pursuit of the design and implementation of excellent work integrated learning experiences.

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_7

The Artefact, the Discipline, the Academic and the Institution

Teaching academics span the field boundaries in higher education institutions; their particular content disciplines with their unique knowledge, experience and interests merge with pedagogical content and strategies in the pursuit of student learning outcomes often quite different from those of their dominant disciplinary background. For example, when the mechanical engineer, whose professional and research field may be more aligned with the application of physics principles in the construction of transportation technology, is the same person as a teaching academic in an engineering faculty, there is a need to employ an understanding of student learning and accordingly adapt the specialist knowledge appropriately for the neophyte engineer. When a specific set of teaching and learning strategies called work-based learning is integrated within this context, the habitus of the academic and their investment in their disciplinary field combine to render problematic compliance with an outwardly imposed process.

Extending this example of the engineer, while engaging professionally with the engineering industry/community may be a familiar activity for the academic, the way that academics and employers, for example, relate in a practice-based learning environment brings new challenges and unfamiliar interactions. Practice-based learning artifacts (defined for the purposes of this chapter as the various paper and digital documents and the officially sanctioned organisational narratives and resources that describe and prescribe practices of work integrated learning) tend to be created within disciplinary boundaries in the higher education institution while at the same time adhering to its broader policies. The dominant cultural views of the group creating the artifacts, therefore, demonstrate the assumptions/beliefs/values of that specific group. In the best case scenario, industry/professions are consulted in the development of curriculum and learning strategies. In reality artifacts are not collaboratively constructed and the level of engagement in decision-making is widely variable.

There is the potential for a tension between what can be generalised and used in a positive way across field boundaries, while at the same time there is the potential for unhelpful conformity and loss of opportunity for innovation. Crossing cultural boundaries without honouring cultural perspectives leads to interpretation through limited lenses creating different mental models about what occurs (Star and Griesemer 1989; Carlile 2004). How well do artifacts allow ‘the whole’ to be seen and understood? Do they provide limits/boundaries/pre-determined parts about what is considered appropriate to share? It would seem that the nature of the artifacts produced only provides access to what the artifacts’ creators think relevant. The artifacts rarely take account of individual difference, neither of faculty nor students nor employers.

Why Bourdieu and de Certeau?

Much of the literature on teaching and learning implicitly or explicitly represents higher education as 'belonging to' the discipline of education whereas in practice, universities and other higher educational institutions are places where many disciplines intersect and where much of the language of the discipline of education is contested within other disciplines. As in any organization, universities and colleges are comprised of individuals with their own dispositions toward institutional practices. This is further complicated when we talk about practice-based learning which involves placements with or projects for workplaces outside the higher education sector.

The authors were involved in two projects exploring the functioning of material artifacts in practice-based learning in the context of a drive to expand and enhance practice-based learning at an Australian university. One project sought to gather together artifacts that already existed in the institution with the aim of building a picture of the official 'story' of practice-based learning. The other project examined the subject outlines for every subject taught in the first and mid-year semesters to see if and how institutional requirements for describing and conducting practice-based learning were being implemented. In both projects it became obvious that artifacts such as policy statements, procedures, forms, web sites and promotional material both succeeded and failed to achieve that promulgation of knowledge around practice-based learning for which they were designed, and both enhanced and detracted from the institutional success of practice-based learning. How could this multiplicity of effects be theorised in a way that might extend our understanding of the implementation of practice-based learning? Rather than looking for formulae to alter the artifacts themselves in some way to make them more effective, to somehow perfect them so as to ensure a singular implementation of WIL practice, it seemed more productive to understand how the multiplicity of effects was brought into being. What was needed was a way of understanding why and how the official material objects designed by experts to codify, standardise and educate about practice-based learning had such varied effects. This led the authors to Bourdieu and the application of his theories within studies of organisations for theorising the reasons for, the *why* of, variations, even resistance. De Certeau's models of resistance related to everyday practice, which extend and challenge Bourdieu's ideas about practice, enable a fuller understanding of *how* the resistance is enacted, how choices are made to enable progress to be made, albeit that that progress may be outside of organisationally sanctioned practice.

Other research has confirmed the importance of disciplinary difference in higher education policy and practice without employing Bourdieu. For example, in one approach to studying disciplinary difference based on two long-term empirical studies[1], Becher (1994) explored the significance of the differences between disciplinary fields within higher education institutions. His work confirmed earlier work by

[1] One study was of disciplinary differences in research norms and practices in 12 fields and the other focussed on graduate education (Becher 1994, p. 151)

Table 7.1 Broad disciplinary groupings. (Source: Becher (1994, p. 152)

Biglan	Kolb	Disciplinary areas
Hard pure	Abstract reflective	Natural sciences
Soft pure	Concrete reflective	Humanities and social sciences
Hard applied	Abstract active	Science-based professions
Soft applied	Concrete active	Social professions

Biglan (1973) and Kolb (1971) which found that there were "four main intellectual clusters" into which most contributing disciplines fell (Table 7.1).

Becher agreed with other researchers that one can then further discern separate disciplines and professional groupings, while at a finer level of examination there exist sub-disciplinary specialisms. Becher wonders why so little attention has been paid to disciplinary differences and proposes different possible explanations, including the tendency to ascribe the propensity for rational behaviour to academics because they are intelligent people (p. 101), when what constitutes rational decision making behaviour may well vary between disciplines.

However, Bourdieu also enables a linking of the power relationships within the academy and world of work outside with questions of individual agency. It has been argued that "Bourdieu's concepts of habitus, field and capital … constitute what is arguably the most significant and successful attempt to make sense of the relationship between objective social structures and everyday practices." (Webb et al. 2002). In theorizing the function and use of artifacts in practice-based learning, that is exactly what is needed; a way of understanding the relationship between the manifestation (the artifacts) of objective social structures (the university policy making and procedural structures) and the ways in which individuals and sub-groups use them (everyday practices). Emirbayer and Johnson (2008) report that while the return to structuralist accounts of organisations in the 1980s and 1990s saw Bourdieu's concepts of field and capital employed in organisational theory, the concept of habitus, indispensable from the 'triumvirate' formed with field and capital, is frequently omitted. The authors here put all three concepts to work in understanding the usage of artifacts. But first, what do we mean when we speak about 'artifacts'?

Svabo (2009) reminds us that practice-based approaches to knowledge in organisations present knowledge as "a process, as opposed to a substance, commodity or piece of information" (p. 361). The knowledge process is mediated by artifacts which "embody social relationships, distribute power, and provide points of resistance" (Nicolini et al., cited in Svabo 2009, p. 362). Large organisations such as higher education institutions construct and distribute such artifacts as arguably the most significant means of minimising risk around practice, maximising adherence to institutional policies, and standardising the student and employer experience of practice-based learning. Artifacts are stabilisers giving something around which to evolve. They may also destabilise, either because they break down or fail or because they are new and demand new practices (Svabo 2009, p. 368).Artifacts may, at the same time as they present a vision of institutional practice, also shut off the local view of a discipline appropriate practice. Therefore, an understanding how the

artifacts translate into action, or not, is crucial. We commence working towards such an understanding by exploring Bourdieu's concepts of field, habitus and cultural capital and their relevance to the question of practice-based learning artifacts and the effects that the development and use of artifacts limit and/or enable good practice.

Field, Capital and Habitus

Field

A cultural field is "a series of institutions, rules, rituals, conventions, categories, designations, appointments and titles which constitute an objective hierarchy, and which produce and authorise certain discourses and activities" (Webb et al. 2002). In the case of higher education, it is useful to consider the institution of 'higher education' as a field in competition with every other fields with which academics might identify. So, a teaching and research academic might identify first and foremost with, say, the field of nursing. In fact, the largest proportion of their thoughts at work will likely be devoted to practices and theories of nursing, their critical thinking practices will likely be those that are most appropriate for the field of nursing, they will adopt pedagogical practices only insofar as those practices seem to serve their commitment to the field of nursing. So while much teaching and learning research and higher education policy making acts as if universities and colleges sit neatly within the field of education, this is true to only to an extent. It is also true that the epistemological orientation and, as we will see, the individual socio-cultural values of many academics may owe more to fields other than education: the fields within which they teach and research and they paths they have travelled to get there.

Habitus

One of the reasons that Bourdieu offers so much in relation to understanding the use of artifacts is because he is neither all objectivist nor all subjectivist. He seeks a position that allows for both an understanding of knowledge and practice being produced by social structures, yet allowing for agency on the part of individuals. This 'critical blending' of the two positions finds its expression, in part, in the habitus. The subject's habitus is the product of the objective structures of dominance that determine what seems real, natural and possible. However, the habitus only creates a predisposition and the subject is a subject with agency who can change, who can resist, who can critically reflect.

Whereas the 'field' is to do with structural aspects of the social and political order, Bourdieu's concept of habitus concerns "…the way in which individuals 'become themselves'—develop attitudes and dispositions—and, on the other hand, the ways in which those individuals engage in practices" (Webb et al. 2002). Bourdieu

describes the habitus as "the durably installed generative principles of regulated improvisations … [that produce] practices' (1977, p. 78). So the habitus is the values and tendencies to act and think in certain ways that we acquire from our cultural history. The stories and values of the habitus seem natural and right. So long as they seem natural and right and are not engaged with critically, they will persist. But when a subject engages critically with those stories and values, they may no longer seem appropriate or practical. The point is that the habitus is not fixed and immutable. Emirbayer and Johnson explain that:

> …the habitus is a mechanism linking individual action and the macro-structural settings within which future action is taken. The habitus also links past fields to present fields through the individual actors who move from one to the next. (2008, p. 4)

The concept of field encompasses the macro-structural level, whether we speak of the field of education or the individual's disciplinary field. The habitus is at the individual level, but is a result of a complex interplay between micro and macro social and structural factors encountered by the individual over time. The habitus, being a product of exposure to culture over time, will change: whenever a critical reflection on the habitus is provoked; unconsciously as one comes under the sway of different fields; and the ways in which it may change are potentially infinite. It should be noted that in Bourdieu's account of habitus, the habitus is largely invisible to the individual and *underlies* their actions as agents.

Perhaps an example in practice is useful here. When an artefact hits an academic's desk, let's say for example, a form to be completed by an academic supervising a student placement in a workplace, they not only assess the practicability of the form from the point of view of its relevance and workability within their disciplinary field, they work out from their habitus, although the latter is not usually a consciously critical process although it underlies their decision making. The habitus provides for them the basis of what seems possible, impossible, natural, unnatural (Webb et al. 2002). Given the complexity brought to this decision making concerning use of the form, and when we consider a hundred or a thousand academics all looking at the form and all making these decisions about how (or whether) the arttifact is to be used, it seems naïve to assume that artifacts can do everything we hope they can do—minimize risk, maximise the chance of policy adherence and so on. When we add to that a consideration of the role artifacts play in student and employer practice, the orders of complexity with regard to field and habitus expand exponentially.

Yet field and habitus also explain the fact that most academics, students and employers do their best to either act on acceptable practice represented in artifacts or to make the best of the artifacts in ways relevant to their field and/or sensible given their habitus. Although their tendency may be to judge the usefulness of the artifacts on the basis of their disciplinary field first and foremost, they have also been steeped to at least some extent in the field of education and their habitus, their 'feel for the game', has been altered by that. Their feel for the game leads them to decide to implement according to law or policy frameworks because that is the game and they have learned how to play the game as time has gone on (Bourdieu and Lamaison 1986, p. 113).

(Habitus X Capital) + Field = Practice[2]

For Bourdieu, as for Marx, capital does not exist or serve any function outside a field (Emirbayer and Johnson 2008, p. 3). Marx says:

> However capital is not a thing, but rather a definite social production relation, belonging to a definite historical formation of society, which is manifested in a thing and lends this thing a specific social character.
> (Marx 1959, p. 569)

Capital includes material objects with symbolic value as well as attributes such as status and authority. What constitutes *cultural* capital within a field is not naturally given but emerges as the result of the social relations within the field, particularly the competition between dominant forces within the field. As an example of the relevance of cultural capital to organizations, one way in which organizations attempt to promote changes in practice is to identify champions to model the changes. Frequently the champions are chosen according to the cultural capital they are able access from within a field. Within fields, given what constitutes capital within those fields and given the habitus of the many individuals within higher education institutions, there is still, according to Bourdieu, the possibility of subjects acting with agency. However Bourdieu also reminds us that agency arises out of the objective structures of institutions and cultures and discourses. And at the same time as players within a field are agentic, they are unconsciously directed by the habitus.

Bourdieu is relevant not only to an understanding of why academics, students and employers enact artifacts in practice in the way they do. Where artifacts such as, say, a work placement workbook, are designed to regulate and standardise practice, the question of who designs them can have enormous significance. The designers/authors must be able to "…comprehend and negotiate cultural fields", an epistemological approach which Bourdieu refers to as a "logic of practice" (Webb et al. 2002). Reay's explanation of the relationship between habitus, cultural capital and field is that it is their interaction that generates the logic of practice (2004, p. 435).

To illustrate some of the points made about field, habitus and cultural capital, consider first a specific case of mentoring student teachers in school placements, a situation where the differences in field, habitus and capital are negotiated. Final year student teachers participate in an 8-week internship in a school, one designed to lead them towards a certification that they are sufficiently skilled to be able to satisfy "duty of care" requirements for teachers. Once they are so certified, they can legally be allowed to take classes without a supervising teacher. However the various parties in this arrangement—the mentors, the manual designers, the faculty staff and the interns, have, over time, come to understand that each school and classroom context, each mentor and each intern is different, so an activity tightly prescribed in an artifact doesn't make sense. Final learning outcomes and the ways in which they are arrived at are governed by externally set professional standards with which both universities and schools must comply because of legal and accreditation issues—

[2] Bourdieu cited in Reay (2004), p. 435

these are aspects related to field. Likewise, interns and teachers alike are protected by other policies and laws within the field. Added to this is a general tendency within the profession for teachers and aspiring teachers to share some common values around what constitutes appropriate classroom practice—a feel for the game which has a lot to do with the habitus. But perhaps most importantly, this is a case of educators in the academy valuing, rather than seeking to dominate, the cultural capital of the practising teachers. Because academics and mentors are within the same field, their ideas about directions in that field tend to alter in similar ways, albeit at different speeds. The negotiations involved in tacitly or openly agreeing to procedures which deviated from those outlined in the internship manual artifact are often successfully conducted between agents who are culturally literate within a field, who have a feel for the same game.

Consider a different example, one where students from a cultural heritage conservation course undertook internships in museums and galleries. Despite similar kinds of placement artifacts to those in the teacher education examples, museum supervisors chose to ignore the recommended activity schedule and were somewhat closed to negotiation about it. They expressed an attitude that, while having something in common with the teaching, mentors' exhortations around not listening to academics, was a much stronger, anti-academic sentiment. They wanted to show students how to do things in ways that they had always done them, while the academics responsible for the interns wanted a two-way flow of information, or at least an acknowledgement that there might be other ways to do things. Although the academics involved were also professional conservators, they were viewed by the museum mentors as primarily outside of that field, as being 'academics' first and foremost. There was not a shared culture, cultural capital of the academics was not valued by the museum mentors, and they had very different feels for the game, in this case the manifestation of the game at stake in the internships.

It has been shown that social relations within the higher education institution are complex and, to an extent, unpredictable, and it falls to practice-based learning artifacts to do a significant part of the work of implementing practice-based learning and of keeping practice-based learning percolating through an organisation, of structuring the implementation. But the artifacts themselves are often part of the contested ground between fields. Bourdieu's concepts of field, habitus and cultural capital are useful tools for understanding why artifacts are used in the ways in which they are used. Thus far Bourdieu has helped us to understand *why* artifacts are given different forms and degrees of attention according to how well they fit within various disciplinary fields, and according to the habitus of the individuals concerned. The use of Bourdieu's concepts as practical tools will be discussed further below. Before exploring the use of those tools to moderate the production and implementation of artifacts, we must turn our attention to a closer examination of the ways in which academics and employers subvert the standardising tendencies of artifacts, the *how*.

De Certeau and Practice

In *The Practice of Everyday Life* Michel de Certeau (1984) seeks to provide a model of everyday practices such as reading and cooking. He is concerned with giving attention to processes outside of the structure of production and consumption. While somewhat critical of aspects of Bourdieu's approach to questions of practice, he doesn't reject Bourdieu's techniques but he does add to understandings of the agency of individuals. This is particularly useful for giving a better picture of how artifacts are enacted. De Certeau extends our understandings of the agentic dimensions of practice in ways that can help us to view the methods of circumventing or altering artifacts as positive moves in implementing practice-based learning.

De Certeau distinguishes between 'strategy' and 'tactic'. Strategy can lay claim to a legitimated place, legitimated by power relations and structures, or in Bourdieu's terms, the field. That legitimated place "…serve[s] as the basis for generating relations with an exterior distinct from it (competitors, adversaries, 'clientèles', targets or objects of research" (de Certeau 1988, p. xix). With regard to practice-based learning and artifacts, the artifacts produced and distributed with official approval fall into this category of strategy. These artifacts have their legitimated place in the university's system of policy and procedure documents and narratives. They form part of the official system of imposing practices and epistemological approaches from above, although of course the process of producing them is not always as monolithic as de Certeau suggests—consultation frequently forms part of the authoring of such artifacts, for example.

Strategies are distinguished from tactics "which cannot count on a 'proper' (a spatial or institutional) localisation, nor thus on a borderline distinguishing the other as a visible totality" (de Certeau 1988, p. xix). Tactics are those practices which occur outside the domination of the field—"clever tricks, knowing how to get away with things, 'hunter's cunning', manoeuvres" (de Certeau 1988, p. xix). When academics place their commitment to the epistemological approaches of their own disciplinary field ahead of the epistemology underlying official practice-based learning artifacts yet still wish to enact practice-based learning, they often call upon this 'knowing how to get away with things' as a way to achieve a discipline compliant and practicable form of practice-based learning. While such 'manoeuvres' act to resist official practices, they are often, but not always, acceptable or even excellent examples of practice-based learning. The question, then, is how a university might go about the development and distribution of practice-based learning artifacts in such a way as to allow for, even encourage, their translation according to field of origin and habitus of individual academics. Are tactics to be resisted at all costs, is this even possible, and, if not, how is the complexity of this picture to be rendered functional?

Bourdieu himself acknowledges such tactics, and in *Outline of a Theory of Practice* (1977) he describes well the question of the limit of acceptable tactical resistance:

> In fact, groups demand infinitely less than legalist formalism would have us believe, but much more than those who "won't play the game" are willing to grant them. Between the responsible man, whom the excellence of a practice immediately in line with the official rule, because produced by a regulated habitus, predisposes to fulfil the functions of delegate and spokesman, and the irresponsible man who, not content with breaking the rules, does nothing to extenuate his infractions, groups make room for the well-meaning rule-breaker who by conceding the appearances or intent of conformity, that is, recognition, to rules he can neither respect nor deny, contributes to the—entirely official—survival of the rule. (p. 40)

So there are tactics and there are tactics. There is, as Bourdieu suggests, a facility for accommodating a bending of rules if it is productive and not destructive to the desired outcomes. The problem for the producers of artifacts is to structure them in such a way that the bending which will inevitably occur does not lead to inadvertent breaks. And the best way of doing that, of course, is to design/author them to accommodate diversity.

Negotiating Fields and Habitus in Pursuit of Excellent Practice

Over and over in Bourdieu's books, articles, interviews and lectures he argues the case for reflexiveness on the part of scholars. This reflexiveness is one of the two epistemological types by which "agents can attain knowledge of, and negotiate, various cultural fields" (Webb et al. 2002, p. 49). The second is 'practical sense' or a 'logic of practice' which is a feel for the game (Bourdieu and Lamaison 1986, p. 113). In order to access this logic of practice one must know "the various rules (written and unwritten), genres, discourses, forms of capital, values and imperatives which inform and determine agents' practices" (Webb et al. 2002, p. 50). In Bourdieu's scheme of things, though, it is much more difficult to attain reflexive knowledge of a field because we are always subjects within the field we seek to know. Difficult, but possible and essential.

This concept of self-reflexiveness is important in designing artifacts that can enhance practice-based learning. When artifacts are being constructed, say, by a committee tasked with developing something for institution-wide use, it is important to avoid the assumption that everyone is "on-board" with the philosophies of education which underpin an understanding of higher education as being *primarily* about education. This might seem counterintuitive, but for most of the faculty of a multidisciplinary institution, education is not the main game, not the native language as it were. Their first allegiance is to their discipline and/or professional field. Therefore, artifacts must be able to speak to all disciplines, allow the methods of a discipline to be applied to practice-based learning practice and process, allow for, even require, translation of education centred language and the practices described and proscribed by that language into the language of the field of practice of the implementers. This is not something that can be done by education professionals for others—they do not have the practical sense of other fields.

An example of where this translation does not take place currently is in the subject outline (sometimes referred to as the subject syllabus), the document for students which documents the learning outcomes of the subject and the assessment and other aspects of the subject and, in the case of the research projects completed by the authors, details the work integrated learning components of the subject. Such documents are usually required to be consistent with an institutional template and are discursively fabricated from the language and conventions of the field of education. To the extent that subject outlines influence the ways in which subjects are taught, this education-centric approach may be problematic in encouraging compliance that is relevant in a disciplinarily relevant way.

In theorizing the function and use of artifacts in practice-based learning, this chapter illustrates the value of attempting to understand the relationship between the artifacts of objective social structures (the university policy making and procedural structures) and the ways in which individuals and sub-groups use them (everyday practices).

Concerns with the implementation of practice-based learning in universities is linked with the use of artifacts that at once act to ensure compliance by prescribing requirements for practice while seeking to improve pedagogical approaches. This chapter has explored the ways in which the diversity of fields, habitus and capital within higher education leads to the translation of artifacts to language and activity that are relevant and accepted by academics. These variations in implementation are recognized and important opportunities for improving practice-based learning implementation and experiences.

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Chapter 8
E-learning as Organizing Practice in Higher Education

Marcelo de Souza Bispo

Abstract In this chapter, how e-learning is constructing new ways of teaching and learning organizing practices in the Brazilian higher education sector is explored. Rather than a case study, the author's experience of e-learning in Brazil provides the foundation for analysis. As a social phenomenon, education has been subject to the social changes influenced by technology. In this chapter, theoretical analyses of e-learning as an organizing practice provide insight into the daily and situated social life that enables learning.

Five elements of the virtual learning environment are developed using a practice-based studies approach to e-learning: (a) learning the e-learning "times"; (b) the necessity of planning; (c) the learning of VLE logic and functioning; (d) the learning of communication and interaction through VLE for professors and students; and (e) the development of a competence of teaching through VLE for the professors and the learning for the students.

The key claim is that the virtual nature of e-learning higher education courses can provide a new space for creativity and facilitation of student learning, with an understanding of e-learning logic by human social actors. Like traditional education, e-learning education can be bad if it is not well planned and/or organized, that virtual does not change the key factors for learning.

Keywords E-learning education · Practice · Higher education · Education technologies · Practice-based approach · Teaching · Learning · Organization · Organizing education · Professor educational practice

Introduction

The impacts of new technologies in society is new, therefore understanding how these impacts change society in many aspects is a challenge for many people, especially professors and students that are facing, in recent times, the e-learning

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_8

education revolution. In this sense, a virtual learning environment (VLE) system creates a new opportunity for learning at the same time that it creates new demands for professors and students regarding how they can utilize this new moment to improve quality education.

The demands on organizations for innovation and change to survive in the hyper-competitive environment require new ways of thinking "what is" learning and knowing that seems to go beyond what is available in books, textbooks, classrooms and training in companies. We must try to understand how people learn from each other in everyday life from the social interactions that transcend the common processes used by organizations. This effort requires thinking about organizations with boundaries spaces in which people live in constant interaction, mediated by language and technology constructing meaning and direction to their daily activities (Hatch and Yanow 2003; Orlikowski 2007).

According to this view, it is possible to understand organizations as places of learning and knowing, permeated by trading and continuous exchange among its members and the artefacts, especially technological ones, which share the same environment (Suchman et al. 1999; Bruni 2005; Bruni et al. 2007; Orlikowski 2007). In this perspective, Practice Based-studies (PBS) are presented as an option to debate, discuss and understand the processes of collective learning and organizations (Nicolini et al. 2003; Gherardi 2001, 2006, 2012; Orlikowski 2000).

In this sense, assuming that education is also a form of organization, the reflections in this chapter will be constructed. For Landri (2012), PBS have great contributions to understand and research education by a multidisciplinary point of view based on a constructionist approach, in other words, education as practice.

Gherardi (2006) points out that the emphasis on the PBS is in recognition of the social sciences as a promoter of discussion about the limitations of rationality and questioning the functionalist paradigm in organizational studies. This approach opens the possibility of understanding that science can be done without necessarily seeking generalizations, something very important in education. This understanding enables educations situated phenomenon, considering that temporality and historicity have significant value for a better understanding of social world. According to Gherardi (2006), this way of thinking organizations appreciates 'knowing-in-practice', i.e., knowledge is situated as social, human, material, aesthetic, emotional and ethical. It also means that the knowledge is built from the practices, as a process that associates knowing and doing.

The practice is a figure of discourse that allows the processes of knowing and organizing at work articulated with historical processes and materials artefacts in an indeterminate way (Gherardi 2000). Every individual practice is located in a wide range of practices, which ramify in all directions, from the individual to the organizational and institutional, as well as any other complex system. Here learning is not understood as individual, group and organizational distinct processes, but as a single process in which all are included simultaneously. Education is understood as a composition of interconnected activities and constantly changing pattern (Gherardi 2006; Czarniawska 2008). The concept of practice has arisen within the sociological traditions of learning that emphasizes a situated understanding of the learning process highlighting the importance of context in this process.

As a way to contribute to this discussion, the practice-based approach lens is adopted to reflect the e-learning in higher education as an organizing practice. The main goal of this chapter is analyse how e-learning is constructing new ways of teaching and learning organizing practices based on the Brazilian higher education experience. The use of PBS is a new way to understand this modality of education that has increased two times more than traditional education in Brazil. To support this goal, the author uses his experience as e-learning professor and as an appraiser of higher education courses of management and tourism of the Ministry of Education of Brazilian Government.

After this introduction, the chapter presents a short theoretical review of practice-based studies with special emphasis on technology. An open discussion about the practices of teaching and learning using VLE follows, articulating how this practice creates an e-learning organizing practice that can contribute to understanding how VLE in higher education is changing professors and students. Conclusions about the meaning of VLE from a practice-based studies lens for research and practice development are provided.

Education as Organization and Practice

Understanding education as an organization is a new relevant form to discuss and research its complex, diverse and dynamic condition in daily life. Sandelands and Srivatsan (1993) pointed out that the major problem in studying organizations is the difficulty in defining them, because the word "organization" refers to something that cannot be seen or confirmed as an object, not least because, in many circumstances, their boundaries cannot be defined, which creates difficulty in description and/ or identification. These characteristics noted by the authors are also related to education when it is seen as an organizing practice.

Gherardi (2006) points out that the emphasis on PBS is on recognizing social sciences as a promoter of the discussion about the limitations of rationality and questioning of the functionalist paradigm in organizational studies. This approach opens the possibility to understand that it is possible to do science without necessarily seeking generalizations; the phenomena can be dealt with in a situated way, where the temporality and historicity have significant value to a better understanding of social worlds.

An important concept to understand education as organizing practice is the organizational texture. For organizational texture Gherardi (2006), points out the connection between human and non-human actors in social action, i.e., organizations are formed from the collective practices of the actors and the set of practices that form the texture of the organization. Thus, it is the texture that enables organizational identity creation for the organization.

To understand education as an organizing practice, in particular the e-learning modality, the concept of texture contributes to the analysis of its dynamic. The educational organizational texture concerns not a physical structure but a metaphorical sphere of perceptions of the organization to which its members possess and that takes

into account their feelings, choices and values. The organizational concept of texture is based on the assumption that organizations are social contexts (Strati 2000).

In this sense, the education texture can be understood as an imaginary territory circumscribed and characterized by a range of actors that holders' ideas, projects, emotions, sensibilities, patterns of action, standards, styles, codes of ethics and an aesthetic sense of the social actors who creates the organizing education practice. Education organizing practices are always the result of everyday interactions and inter-subjectivity created among its members from their practices.

Czarniawska (2008) notes that much of what constitutes organizations is not accessible directly in formal instruments—reports, manuals, official speeches, etc.—Because there are many "rules" and agreements that are *taken-for-granted*, something that also happens in education practice.

Practice, Technology and Organizing Education

In recent years, technologies are changing the society in many ways, including the possibilities of learning and knowing. Tools as smartphones, tablets and websites as Google, Facebook, Twitter and others created new forms of interaction, with real and virtual almost hybrid. With the use of the internet, it is possible to interact in many forms, synchronous and asynchronous, depending of the goal of the interaction. Many companies are adopting web conferences to do meetings to save time and money, and people can elect many forms to communicate to each other. For Eriksson-Zetterquist et al. (2011) technologies are in the heart of the society and their changes.

However, in this moment that the world is connected 24 h per day, the education field, including the higher education, still work in ways consistent with a hundred years ago. Perhaps people at this moment are asking for themselves, why this kind of statement is here? Nowadays schools have many computers, electronic documents and the use of internet is usual. While this is true, the discussion here is not based on the presence of the technology in schools, what we want to draw attention to is the fact that, in essence, the way of teaching and learning in schools has not changed.

So, how is it possible to see it? It is a simple answer. Imagine a person that studied in a university a hundred years ago, who was frozen from that time until now, and in this moment has the opportunity to enter in the same university. Of course that this person will see the changes, but she/he would know that the place is a university and would be able to recognize a class. In this sense, the discussion here is not the use of technology to do the same process of teaching and learning, but also to reflect why higher education did not change in the same way that other social organizations changed in recent years influenced by technology. In other words, why the way of organizing higher education is still the same in the face of the technological development Era?

Of course, that is possible to see many changes in higher education institutions, especially related to management as acquisitions and alliances to create big

educational groups or the creation of new courses and carriers, most of them related or from new technologies. Nevertheless, the way of organizing the teaching and learning process still few impacted by new technologies.

However, in the last 10 years a new way to offer undergraduate courses emerged, the e-learning courses use a virtual learning environment system (VLE). It seems, in the first moment, something new and that changes the mainstream of education in undergraduate courses. Notwithstanding, this new modality of teaching also faces problems for professors and for students. The main problem understands how to deal with this new modality without copying the way of teaching and learning used in higher education from many decades ago.

In this sense, e-learning in higher education implies in a learning process for students and professors of how to produce knowledge and develop competencies through a virtual environment. For both, this is a great challenge because there are professors and students that have their first contact with this modality now and none of them used this possibility before. Thus, for professors, it is crucial to learn how to conduct their classes through a virtual way using many tools and strategies of teaching to achieve the goal and, at the same time, stimulate the student with this new possibility of education. In the other side, students have to learn that the e-learning modality and experience require high levels of self-direction and self-taught, something not usual in high school and higher education until this moment.

In this way, the situation presented here provokes a creation of a new practice of teaching and learning related to e-learning in higher education and, at the same time, a virtual organizing education around this practice. Therefore, the discussion of practice and organizing in higher education e-learning system stimulate a reflection with three points; (a) theoretical education systems; (b) methodological ways of teaching and learning; and (c) practical experiences of everyday e-learning courses. In order to put more clear these three topics of e-learning practice and organizing in higher education, a brief discussion follows.

E-learning Practice and Organizing in Higher Education

Starting with a theoretical reflection, an e-learning education system implies a broad understanding of time and space. It is necessary because there is many "times" for each social actor involved in the e-learning process, particularly students and professors. In other words, the actors can interact to each other synchronously and/or asynchronously. This situation shows that the e-learning practice does not occur, necessarily, in the same moment to all actors, therefore it happens sometimes for everybody together when students and professors are working in a chat or doing aspecific activity. Otherwise, professors can create material and classes in a different time in relation to their students' selected time to study.

In addition to this, the discussion of time together with the usage of a VLE offered the possibility to understand that the creation of the classes as well as the moments of study of the students can occur in different physical spaces. However, the VLE is the common space to all actors and links them in different chronological

times. This dynamic emerges as a practice of education and a way of organizing at the same time. In e-learning the VLE assumes many roles as classroom, network, database and institution. The institution of the university is materialised for students through the tool of VLE, the university is alive in a virtual space in different times and physical spaces.

In addition, the broad theoretical assumptions about time and space imply can methodologically produce knowledge and facilitate teaching and learning. This methodological way of doing e-learning education is a crucial point to understanding the practices related to it. The creation of a methodology is difficult because the major part of the professors, as well as the students, did not have the experience of VLE. Therefore, the starting point is based in a "classical" way of doing education; there are new technologies for "old" scholars. This beginning moment of e-learning demands new knowledge and ways of learning from all actors involved and it is not the adaptation of the practice of "traditional" education to e-learning education, but a creation of a new situated practice.

From this new situated practice will emerge a different way of organizing and organizations. The building of the e-learning practice will emerge from the interaction of the actors, humans and non-humans, based in an aesthetical judgment (Strati 2007) that will fit in the situated necessity of the members involved. So here, the main goal is not to propose a methodology to do e-learning education, but stimulate people how to do their own model, their own practice and organizing frameworks.

The last point of the reflection is the daily practice of the members, especially professors and students, in the production of the organization of e-learning education.

This discussion is important because just the actors together are not enough to construct the e-learning practice. Beyond them is very important the action and interaction of all actors to stimulate the practice. This process is negotiated and constructed by human and non-humans elements daily. It is important to say that a practice it is not the sum of the actors, but the result of the interaction of them. The way that the members act and interact in the daily work, as well as the use of the technological devices and VLE, create many possibilities of e-learning education practice. That is why universities with the same technological devices and VLE, as well as people with the same roles, create different models, methodologies and ways of doing and organizing e-learning education practices.

The Brazilian E-Learning Models in Higher Education

In Brazil, the e-learning higher education started the first courses in 2005 after the government authorization. In the beginning, there were just few rules to regulate this kind of education. During the years, the practical experience and the learning with the practice improved the way of doing e-learning in the country. Nowadays the most important rule is that all courses have to evaluate their students physically in a pole. A pole is a physical space that supports the students. It is a space with classrooms, laboratories, library and an academic office to help the students with

bureaucratic issues. In other words, it is the official representation of the university in the cities that the university offers your higher education courses.

It is important to say that Brazil has both public and private universities and both are regulated to provide e-learning higher education courses. According to Brazilian government regulation, the choice of which e-learning model will be adopted is open to educational institutions. But it is necessary, at least, one physically evaluation that represents sixty percent of the final grade. This evaluation have to be in the pole and the major part have to be a wording.

In general, it is possible to find three models of e-learning in Brazil. One of them is the adoption of a total e-learning course, which the students just interact with the professors and other colleagues by a VLE. The students go to the pole just to do the evaluation physically and solve any other administrative problem. Another possibility is a semi-presence model that the students beyond the VLE have to go to the pole once a week to develop some activities. The professor of the discipline creates these activities and a tutor assists the students in a classroom in the pole. The last model is semi-presence too, but in this case the students goes to the pole once a week to watch alive class in the pole transmitted by a satellite from the university where the professor is teaching in a television studio as if he/she was working in a common classroom.

In Brazil, the most used virtual learning environment system is the *Moodle* (Modular Object-Oriented Dynamic Learning Environment) a free software develop by Martin Dougiamas, an educator and computer scientist. However, there is another VLE developed by Brazilian professors in the University of Campinas (UNICAMP), one of the most important in the country, called *Teleduc* that is very used too. Beyond these two options of VLE, there are some universities developing their own systems in order to customize by their needs. It is important to say that *Moodle* and *Teleduc* working just as virtual classrooms and it is necessary another system to do the educational management with things like requirement of any kind of declaration, payment control or any other bureaucratic needs. Both have focus only in the student learning process.

Analysing E-learning Models in Higher Education as Organizing Practices by Brazilian Experience

The exercise of reflection about e-learning in higher education in the light of PBS is a way to try to understand better how this "new" form of teaching and learning creates another logic to do higher education for professors, students and university managers.

The main point here is not to say "how to do e-learning" in higher education context, but reflect and analyse how human (specially professors and students) and non-human (VLE, the web world and devices) social actors (Suchman et al. 1999; Orlikowski 2007; Gherardi 2012) create their own way of organizing the practice of e-learning. Beyond that, understand in which way this e-learning practice offers new knowledge.

To start, it is relevant reinforce that the principal challenge for the e-learning social actors and, at least, for anyone that is reading this chapter now is that we are talking about a different modality of education not experienced for the major part of the people. For this reason is important to understand that e-learning in higher education has another logic and not another objective. This starting point is relevant because all reflections and analysis will be made with this in mind.

In order to more clearly the importance of understanding this different logic, some elements have to be considered in the e-learning process:

a. learning the e-learning "times";
b. the necessity of planning;
c. the learning of VLE logic and functioning;
d. the learning of communication and interaction through VLE for professors and students;
e. the development of a competence of teaching through VLE for the professors and the learning for the students.

These points are the analytic criteria for e-learning practice and organizing in higher education.

Learning the E-learning "Times"

The first logical impact of e-learning relates to time. The understanding of the function of the time in the all processes is fundamental to a deep ontological and epistemological discussion of e-learning organizing practices. This initial discussion is necessary because the e-learning process have many "times", synchronous and asynchronous, that organize the e-learning logic. In other words, the organizing of all times constructs the e-learning practice.

As a way to show these "times", it is presented here separated just to facilitate their identification, but all of them are integrated in the e-learning practice. The "times" are the time of:

a. class production by the professor;
b. professor and student interaction through VLE (it could happen many times during one lesson);
c. individual study of the student; and
d. collective interaction between professors and students.

Probably this classification could be spread or merge, but the main goal here is to reflect that these times are a mix of synchronous and asynchronous times of the same class or lesson. In a chronological point of view, there are different times in which that activity occurs, but if the main focus is the class and e-learning organizing, there is only one time, the class time. In this sense, it is possible to corroborate with Czarniawska (2008) that is difficult to delineate the boundaries of an organization, in this case because it occurs in many places (professor's house, student's house, university, etc) during the same or different "times". In addition, it is possible

because they are linked by a VLE that permits their interaction both synchronously and/or asynchronously. The analysis of time provides a good example of technology as social actor (Suchman et al. 1999; Orlikowski 2007; Bruni et al. 2007).

This situation presented here is not the same in the traditional higher education model that the face-to-face time is considered the most important one by professors and students. In this case, the organization is the university and the class time is unique. The use of VLE changes the understanding of time for teaching and learning for professors and students.

The Necessity of Planning

Another important difference between traditional and e-learning education is the intensity of planning, not only for professors but also for students, constituting another logic practice.

In a traditional education, the professor is the responsible by the production, organization and the learning of the students. The main role of the students is in-class presence and to do the things that their professors ask, and when they have doubts they question the professor in the next class. In e-learning education, the student has to assume a protagonist role, he/she has to control and participate actively in their learning in a development of a self-direction process. In this sense, the more they are responsible for their learning, the more they have to plan and organize how and when to do it.

For professors, the e-learning education demands a previous plan of their classes and there is not so much space for improvisation. This planning includes not only the content, but also how students can learn through VLE and how much time is necessary to develop each activity. This sense of planning is essential to students' learning.

On the other side, the students have to use their freedom related to the time to study by themselves, it implies more responsibility because they are required to develop self-direction, self-taught and the commitment with their studies and personal development. In the e-learning model, there is no space for dependence.

This dynamic of study creates its own way of organizing practices of learning by students and this practice help to form the e-learning practice as a whole. Every small group with their practices generate an organizing way in the e-learning system's major practice, created by the interaction of all social actors, humans and non-humans. This dynamic is an example of organizational texture (Gherardi 2006, 2009, 2012).

Thus, the need for planning by professors and students creates an interrelation of their individual practices in order to create the e-learning practice. It is important comment that this planning action of professors and students is directly related to the understanding of the use of the time, discussed earlier. The articulation of the "times" with the social actors in an e-learning organizing is the main point of planning activities and in the constitution of practices.

The Learning of VLE Logic and Functioning

As mentioned before, there are many options of VLE in Brazil and the *Moodle* is the most used by the major part of the universities. As the logic of most VLEs is similar to Moodle, the reflections that follow are based on the use of this virtual learning environment.

The most important understanding related to a VLE is that it is a classroom, the space of teaching and learning. In this vein, the idea of a virtual space to do education creates new forms to consider where teaching, learning and working occurs. In addition to this, the reflection spreads to the mixing of the virtual with the physical spaces because at the same time that the course is virtual, the social actors, including the non-humans, are doing e-learning in a physical space too. In other words, the VLE can be used by people at home, in the bus, at work, etc., and the devices used to access the course can be a computer, a tablet, a smartphone, the television, etc. Therefore, these many possibilities create many forms of organizing e-learning practices.

This dynamic and possibilities of doing e-learning, including the discussion of the "times", demands a new way of professors and students to see education, especially when it happens in a virtual space, a VLE. The use of VLE as classroom definitely is not the same form of organizing of the traditional education, mainly because the virtual space provides many kinds of interactions, in the same moment of the "class", with different issues related to work, fun, entertainment, etc. Professors are not the focus during the class and the students can search many things not only in the VLE, but also in the web.

In general, the VLE is a space to promote people interested in a same issue to meet. In this sense, the VLE logic provides an opportunity to link students, professors and a proposal of study. In other words, VLE is a space to find people and the things that you have to do to learn, in the student's case, and to give alternatives of how to learn, in case of the professors.

This logic provokes, at the same time, confusion in the mind of the social human actors of traditional education (professors and students), but freedom for those people with this "new" logic to access information of what to do to give the students autonomy, self-direction and the learn to learn competence to be professor and student in a e-learning organizing practice.

To summarize this thinking, the VLE logic is based in the promotion of the freedom of how to teach and how learn in different ways, with different people in different times. This is the dynamic that creates an individual practice for each course that people experience bye-learning in higher education.

The Learning of Communication and Interaction Through VLE for professors and students

One of the most important elements in e-learning is the interaction among participants, not only because people, in general, are not in the same physical space, but

because it is the principal element that makes the course tangible for all human social actors. Therefore, without continuous communication and interaction, none of the human actors can perceive the course on functioning. In other words, it is the way to do the course tangible for them. In this vein, the e-learning practice starts through the interaction.

The interactions have two important characteristics, the first is the relationship that professors and students have with the computer (or other device), the internet and especially with VLE in the developing of their activities and responsibilities. The second is related to the communication between professor-student and/or student-student. As pointed by Gherardi (2000), a practice is always related with the interaction of the members of a group and is a result of a figure of the discourse created by them.

In the case of e-learning, the possibility of synchronous and asynchronous interaction and communication creates an intense change among human actors about "what to do" and "how to do" education mediated technological devices. An interesting point is that professors and students have different forms of interaction depending on each device they are using, this dynamic and technological influence is well discussed by authors like Orlikowski (2000, 2007), Eriksson-Zetterquist et al. (2011).

For instance, when one of the human social actors access the VLE by a smartphone, they usually aim to see a specific thing that they need to know and they can exchange some short messages. Of course, that it is not a fixed rule, but the access through a smartphone suggest that he/she is not in a "planned" time to participated in the course, but it is some time that "appeared" and is used to be in the VLE. Another thing is that, in general, smartphones are not a good device to do complex things related to reading a paper or writing a big text, for example. Each device determines the main aim of participation in that moment.

Just to illustrate, a professor usually prefers a computer to create classes in the VLE or to work many hours with e-learning. Nevertheless, if a professor wants to read activities uploaded by students, it is probably more practical and comfortable to use a tablet. However, if the professor want just to follow a discussion in a forum, it is possible to monitor by a smartphone. For the students, it is possible to follow the same logic, but the most interesting point is that all these possibilities of connectivity are facilitators of the communication and interaction among social actors.

This characteristic of e-learning practice can offer an opportunity for the students to be closer to their course and, at the same time, creates many opportunities to learn in different ways and times. In other words, the course and the learning process are not only when they are in the university, the university is always with them.

On the other hand, for professors, the e-learning practice can create a situation with much more hours of work if the option is the use of many devices to work. However, it is also a possibility to work anywhere they want. If a professor has a personal computer and access to internet, he can do his work on the beach, for example.

The Development of a Competence of Teaching Through VLE for the Professors and the Learning for the Students

Considering everything discussed to this point, a good question emerges to professors and also students: "How can I do e-learning education in practice?" This question is crossing the whole discussion in this topic, especially because people, in general, knows how to use the internet and electronic devices in many ways, but the logic of "what is a class" or "what is a university" is so strong that blind people to see these points in a different way. As mentioned in the beginning of this chapter, education does not have the same velocity of technological innovation as business communities and is slow compared with other social innovations influenced by technology.

This initial reflection has great impact on the way in which professors have to work with e-learning and students can learn using a VLE. The main problem is that both try to do e-learning as a classical course, forget or have difficulty working with this modality within another logic of teaching and learning. Therefore, in order to develop competencies of teaching and learning through a VLE, it is necessary to consider education as an organization without boundaries that all actors are linked by an educational e-learning practice. In other words, what define both professors and students in a university is not the physical space and address, but a virtual space and address. This is the basis of the e-learning logical practice.

With this in mind, the next point is the discussion about how to create interesting classes in the VLE and how to learn using it. This is the main challenge for professors and students. However, it is not a goal here to propose a model or a script of how to do VLE, but stimulate a reflection and analyse what is possible to do considering a new logic stemming from the practice-based studies lens.

Starting with professors, first, it is very important understands that the knowledge will not be in the VLE;VLE can assist professors to organize material and promote communication and interaction. The role of the professor is to create conditions to learn to generate the circulation of fragmented knowledge (Bruni et al. 2007). The knowledge emerges from mediated activities among all social actors (Suchman et al. 1999; Orlikowski 2007; Eriksson-Zetterquist et al. 2011), including technological ones, and these activities form the organizational texture (Gherardi 2012) of e-learning practice.

The main challenge for professors is to transform a VLE to something more than a database or a chat. It is necessary create things that makes the VLE a social actor that mediates the interaction between professors and students. As a physical and traditional classroom, the VLE do not create knowledge, the professors have to be able to use the VLE as a dynamic classroom in order to facilitate learning and knowledge for the students. It is a knowing practice for professors based on their daily experience influenced by the aesthetic perceptions about teaching work in which it can develop during the time in a taste make process (Gherardi 2009).

In this sense, if you assume that the VLE is a virtual classroom with high connectivity and media tools, it is a wonderful space to work with creativity and

innovation. This understanding is essential to develop the e-learning practice and establish a unique way of organizing learning and knowledge.

Students have to have an open mind and courage to face the new possibilities offered by e-learning courses. These opportunities are related to creating autonomy and self-direction of learning. In the same way, as mentioned in the case of professors, the students need to understand that e-learning offers them the possibility to be active in their learning process. It starts when they have to organize and plan their own schedule of studies in a period planned by professors. In this sense, they have to elect if it is better study just few hours per day or many hours in 2 or 3 days per week, for example.

In addition to this, an electronic device connected to the internet makes it possible to do research of complementary material (multimedia or not) related to the issue of study. Considering some tools of the VLE, the students can interact by many forms synchronous and asynchronous with each other and with professors, something not so usual in a traditional education. For them, it is also necessarily creative, especially when the internet is their main library.

Analysing these characteristics for professors and students, and the combination of their respective roles is the basis of their activities in e-learning higher education. These activities using the VLE and others technologies form the base to e-learning organizing resulted from their daily practice. It is important to reinforce the term "own organizing practice" because each course creates an identity even in the same university.

It is possible to see, by the experience with e-learning programs, even with the same technology and framework, each course have its own identity influenced by how all social actors combine their roles and actions forming their own practice, organizing and organizational texture daily. The perpetuation and/or change of the practice result from the aesthetic judgement of the course members based on their daily taste making with the course experience. As a way to illustrate the main ideas of this topic, refer to Fig. 8.1.

Final Remarks

The main goal of this chapter was to analyse how e-learning is constructing new ways of teaching and learning organizing practices based on Brazilian higher education experience. It is not a case study, but a discussion based on the author's e-learning experience in Brazil. This discussion is important because technologies are changing the social life, especially with things related to connectivity and interaction. Proof of this includes the growth of social media.

Education is a social phenomenon that it is also influenced by technology, but not enough to change the logic of educating. A change in the logic of educating is necessary because schools and universities are criticized on the grounds that they are not preparing graduates to meet the new world reality.

Fig. 8.1 E-learning as organizing practice in higher education.(Source: author)

It is important to say here that it is not a defence in favour of e-learning education to address these critics, but it is possible to create new logics for higher education through e-learning modality for professors, students and educational managers. It could help create a modern university more closely aligned to daily society. In this vein, PBS is an approach that focuses on daily and situated social life, which enables people to learn how to do education with the everyday life.

Viewing e-learning education as an organizing practice provides a way to understand how to improve this modality of teaching and learning in the everyday life of the human social actors and, in the Brazilian case, it is developed in different ways. These possibilities are based in five elements: (a) learning the e-learning "times"; (b) the necessity of plan; (c) the learning of VLE logic and functioning; (d) the learning of communication and interaction through VLE for professors and students; (e) the develop of a competence of teaching through VLE for the professors and the learning for the students. The combination of these elements provides the e-learning organizing practice as illustrated in Fig. 8.1.

It is important to say that e-learning education suffer critics, the most cited is that people have difficulty to learn in a virtual environment what suggest that e-learning education is something less efficient than the traditional education. Therefore, the main problem in an e-learning higher education course is not the virtual, but the lack of creativity with misunderstanding of e-learning logic by human social actors. Of course, that the courses have to have very good laboratories and tutors in the poles to support the education program and it is expensive. However, the main point in this discussion is the defence that an e-learning course is not bad because is virtual, it could be bad because is not well planned and/or organized, something common in traditional education.

In conclusion, the study of the daily practice of e-learning education could be an interesting form to help to this modality can find its own identity. In addition to this, in a few years this kind of higher education course will have professors and students that were graduated in this modality what can also help the development of new logics of higher education. It could be an opportunity to transform the higher education from a fragmented knowledge system to an educational texture of learning and knowing.

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Chapter 9
Practice-Based Learning of Novices in Higher Education: Legitimate Peripheral Participation (LPP) Revisited

Assunta Viteritti

Abstract The chapter extends Lave and Wenger's Legitimate Peripheral Participation concept to Higher Education and intends to review the concept of LPP by placing the role of novices and technical materiality at the heart of practice-based learning. A narrated description of the events observed in the lab shall attempt to show how a novice learns through practice and with others (both human and non-human), emphasizing the idea that in Higher Education too, and particularly in the passage from the lecture hall to the laboratory practice-based learning is situated, socio-material and participated. The pedagogy of practice, activated in the scientific laboratory context fosters the co-existence of learning practices and academic interests, producing tension between codified knowledge and unstable expertise in evolution, between the procedural standards and artisan skills incorporated by both novices and experts. Only by integrating these two types of knowledge can a robust university training and qualification be achieved.

Keywords Learning · Novices · Scientific practice · Sociomateriality · Higher education · Practice-based learning · Legitimate peripheral partecipation · Human · Non-human

Theoretical Premises

This contribution, which merges the situated learning perspective of Lave and Wenger (1991) with that of the studies on materiality according to the Actor Network Theory and Science and Technology Studies (Latour and Woolgar 1979;

A different version of this paper it was published in the 2012 (Viteritti A. "*Sociomaterial Assemblages in learning scientific practice: Margherita's first PCR*" in TECNOSCIENZA: Italian Journal of Science & Technology Studies http://www.tecnoscienza.net/index.php/tsj/article/view/91). Now, in this new version I would to explore some different elements that permit a re-conceptualization of learning and in particular the role of LPP in Higher Education.

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_9

Lynch 1985; Knorr-Cetina 1999; Latour 1987), intends to review the concept of *Legitimate Peripheral Participation (LPP)* by placing the role of novices and technical materiality at the heart of practice-based learning. The contribution has two aims: to extend Lave and Wenger's (1991) PPL concept to Higher Education, viewed as a field of theoretical/practical apprenticeship, and to propose a review of the concept of periphery attributed by Lave and Wenger to novices in order to demonstrate the central role played by the newcomers, who become involved in a process of accelerated practice-based learning thanks to the collaboration of technological artifacts in the laboratory. The relevant cultural source of the paper is that of practice-based studies of learning and knowing in organizations (Gherardi 2000; Nicolini et al. 2003), which have contributed to changing our vision of knowledge from a stable, mental, de-conceptualized, individual, codified conception to one which is situating, social, negotiating, practiced, emerging and incorporating in the body of subjects and in the artifacts.

The chapter starts with the assumption that the process of participation in which a novice becomes involved is neither linear nor progressive: it is not a trajectory which leads the novice from the margins to the heart of practice gradually and through time. The hypothesis underpinning this work is that this process is dynamic ad articulated, and sees the newcomer manage uncertainties, artifacts and relationships towards which he or she must demonstrate responsibility and dexterity from the outset. In this accelerated process of acquiring mastery, the intermediating role played by the technical artifacts which contribute towards speeding up and problematizing the trajectory leading the novice to the core of practice, becomes ever more relevant. Situated learning is based on the assumption that knowing and doing are inextricably intertwined (Gherardi 2011): learning is a process for the incorporation and continuous translation of knowledge into practical actions, an active participation process in which the learning subjects are involved as key players. In this perspective the learning investigated through observing the novice are sociomaterial actions (Orlikowski 2007) situated within a network of activities involving people and objects which together produce knowledge, that practical knowledge which materializes in both the experts' and the novices' hands through highly standardized procedures and techniques. This paper, therefore, intends to affirm that learning is social and practical (Fenwick and Edwards 2010; Sørensen 2009) in the field of Higher Education, too, and is characterized by the intertwining of heterogeneous human and material aspects. The idea is to examine the experience of learning scientific practice in the transition *between* the learning of academic knowledge in lecture halls, where knowledge is codified and stable, and the appropriation of knowledge by doing, *in action*, in the laboratory, where knowledge is still hybrid, vulnerable and malleable, as it is developed in the relationship between humans and non-humans, between the materiality of technical devices and the sociality/corporeality of experience.

The outcomes which Lave and Wenger report in their research regarded contexts of traditional practice, but what happens when the contexts under analysis are learning and working environments steeped in technology? Can the learning contexts contribute to reviewing the concept of LPP? Do *technologically dense*

environments (Bruni 2013) accelerate the processes which position the newcomers at centre-stage? The concept of LPP in social anthropology is a crucial part of situated-learning which implies involvement in practical activities carried out in specific contexts. Research into situated learning studies how people acquire knowledge and competence in social processes outside formal training contexts, too. In the consolidated vision of LPP, the novice interacts with other members, moving from the margins towards the centre of practice, and in this trajectory acquires practical culture in context, thus becoming expert. This paper intends to review the concept of *periphery*, hypothesizing that the mediation of technology and materiality produces an acceleration of the trajectory of participation. In the studies by Lave and Wenger, technology, though mentioned as being relevant, is not fully appreciated as an element in the participation. It is taken into consideration, though not fully analyzed for its relevance, but rather set aside and treated as a mere tool. Another element is that these studies were based on somewhat more traditional manual and artisanal professions, such as midwifes, tailors, butchers and helmsmen, as well as members of Alcoholics Anonymous. The learning trajectory is framed by a progressive, gradual acquisition of the trade and of the contextual professional culture, developing an awareness through time. Today, the contexts of practice are characterized by processes of greater instability and mobility, in which technical artifacts often serve as accelerators in participation. Thanks to these, the novices are interconnected into articulated systems of practice in technologically dense environments, which foster a more rapid participation. In this type of context, knowledge, which is never individual, allies itself and connects with heterogeneous elements of practice.

A narrated description of the events observed shall attempt to show how a novice learns through practice and with others (both human and non-human), emphasizing the idea that in Higher Education too, and particularly in the passage from the lecture hall to the laboratory, practice-based learning is situated, socio-material and participated.

Field and Research Methods

The chapter tells the story of Margherita, (Viteritti 2012) a university student, who is preparing her thesis, and who, in her first few days in the laboratory, encounters the PCR[1], a technique in molecular biology. A scientific research laboratory is part of a university context, and commonly held to be an environment which privileges theoretical, disciplinary, abstract, de-contextualized, codified knowledge. It is a place where standardized knowledge is transmitted and transferred by the more expert (the professors) to the less expert (the students). University life has often been

[1] The *Polymerase Chain Reaction*, commonly conveyed by the acronym PCR, is a molecular biology technique which allows fragments of nucleic acids from DNA to be amplified. Amplifying using PCR allows scientists to obtain the quantity of genetic material necessary for successive applications and experiments very rapidly *in vitro*. The technique was invented in 1983 by Kary B. Mulis, who won the Nobel Prize for Chemistry for this in 1993.

considered to be an extension of school life, merely differently organized. In the context of university teaching, what counts are the disciplines and their traditions, the controversies regarding theories and the debates surrounding those disciplines. In every field of university knowledge, from Physics to Social Sciences, codified, specialized knowledge is placed on a pedestal from a theoretical, methodological, historical, and perhaps even a practical viewpoint. However, in the in the last few decades, practical learning processes have begun to count even in university lecture halls, teaching curricula and evaluation tests, and the predominance of mere knowledge has given way to valuing competency and "knowing how to do something with your knowledge", too. The university sphere has become a context in which practical knowledge is experimented in laboratories, experimental teaching, internships and apprenticeships. This contribution aims to investigate the second phase in the history of academic knowledge, that in which theoretical knowledge catches up with and transforms itself into practical know-how. When for a student, (a biology student in this case), after having sat and passed a certain number of theoretical exams, read volumes and articles, taken notes for semester after semester and carried out practice exercises in teaching labs, the moment for practical training arrives.

At a certain point in his or her career, the transition from the biology lecture hall to the scientific laboratory takes place, and this happens when the student has to face the final tasks which lead to graduation. In that moment the student moves on from books to test tubes, from note-taking to molecules, from codified knowledge on the whiteboard to the more unstable variety evolving in the hands of experts in the laboratory and from mere words to cells. Along with the nature of learning, objects of reference, actions, procedures and practices all change. The student moves on from the obligations of teaching to the responsibilities of learning. The scientific laboratory thus becomes an extension of the university environment, a place where learning processes develop through practice in a context where significant social and material interactions develop and where the situated know-how typical of apprenticeship is generated. Scientific research laboratories become spaces for translating and converting knowledge. They host university students on internships geared to their theses, Phd students, etc. They are places for academic apprenticeship in which the disciplinary knowledge acquired in lecture halls is disarticulated and recomposed as practical know-how. In research laboratory practice, codified, stable academic disciplinary knowledge (Physics, Biology, Chemistry, etc.) is dismantled, reorganized and retrieved in other form, then translated into practical know-how to be learnt materially and manually through the senses (Goodwin 1994). In the laboratory, scientific knowledge is transformed into practical action requiring the heterogeneous enlistment of both people and objects. A student's participation in laboratory activities is very different from what is required of him or her in a university lecture hall: there words and listening are what count, here it's observation and active social and material participation.

The laboratory is a special educational area which favours a curriculum activated and experimented through practice (Fenwick and Edwards, 2012) and places the relational effects between sociomaterial events and researchers centre-stage, unlike scholastic and university contexts which privilege a formal, codified one. Scientific

laboratories are interstitial spaces between academic and business organisations, basic and applied research, experience-based knowledge and codified knowledge. Scientific research laboratories are *boundary places* (Star and Griesemer 1989) where formal and explicit learning, informal socialisation, tacit knowledge (Polanyi 1966; Collins 2010) and expert practice intertwine, and educational places where knowledge is always a shared practice, being the product of human and non-human assemblages. Like other professional settings, laboratories are spaces embodying a pedagogy of practice (Kaiser 2005). The processes in which researchers face problems, search for solutions, learn and embody roles, draw on established knowledge, create new knowledge and make themselves familiar with daily practices constitute a daily pedagogy, which is not abstract or pre-established: it is not inside people's heads or in manuals, but is embedded in the process of knowledge appropriation.

Through a detailed account, the paper shows how the novice, albeit under the supervision of a senior researcher, immediately takes centre-stage in the practice, thus supporting the texture (Gherardi 2006) of the practices performed by more expert researchers. The hypothesis is that in research laboratories (as well as in other workplaces) newcomers are immediately involved in the construction and organization of the established routines that constitute the crucial and ordinary activities in the context. The idea is that novices do not just stand and watch the world from the margins, gradually getting the hang of things through increased involvement, but are immediately cast into the practice in order to support and contribute to the work of the community. The novices are quickly called upon to enter into the heart of laboratory practice and soon become productive resources. They are *catapulted* into action and immediately realize that their daily practice is at the basis of all laboratory activity.

Novices, and in particular those like Margherita who join the laboratory in order to complete experimental theses for their degrees, experience an initial phase of disorientation or *breakdown*. Entering the laboratory is like crossing a cultural threshold, in the sense of the knowledge acquired in the transition between two educational spheres: that of the university lecture hall and that of laboratory practice. The young apprentice scientists discover that scientific knowledge, which till that moment they had learnt mainly from textbooks and university teaching of the transmitted variety, is rather a practical, material, social and relational process. During their first period in the laboratory they strive to distance themselves from a vision which perceived knowledge as being a codified, certain result to one where knowledge is seen as a process, a situated, local action, a relational effect which links people and objects (Latour 2005). Collaborating with a senior (and also working with other colleagues) leads the novice to an *all-practical knowledge vision*, far removed from the codified university variety.

In the work field, I assumed an ethnographic perspective (Atkinson et al. 2001) which required a lengthy period of observation. For several days, using the *shadowing* technique (Czarniawska 2007), I therefore began to follow Margherita. In this story, we observe Margherita as she becomes familiar with her work environment and grows from being an insecure, inexperienced novice to an independent, reflexive and skilled young researcher.

The University Laboratory as a Learning Space for Novices: Margherita at the Center of Scientific Practice

Margherita's first days in the laboratory took place in silence. She's not a *tabula rasa*, she has already been in another laboratory in the course of her university studies, where she learned how to manage diverse instruments and carried out all the tests used in molecular biology.

She has therefore already acquired a certain dexterity which gives her a sense of security and practical ability in daily laboratory life. Margherita has already incorporated a measure of practical know-how and behaves in a "natural" way: her previous experience in an academic context on earlier occasions (experimental teaching, practice, teaching laboratories, visits to other Biology labs, the accounts of other colleagues, etc.) have given her the opportunity of "accumulating" a certain degree of experience in the form of tacit knowledge, which she can draw on and now exhibit, translate and adopt.

She, therefore, has some knowledge of the environment, and knows how to avoid getting in anyone's way, how to move agilely between workbenches and computers. These early phases of her practice are similar to the tailors' learning practices described by Lave and Wenger (1991), with a short period of time defined as "way-in" during which Margherita observes, tries to make herself familiar with her workspace, with the objects and people around her. In her first days in the laboratory, she is flanked by another young intern, a girl who has already spent several weeks there, and it is with her that Margherita begins *to find her feet*, learns where the instruments she will have to use are kept, familiarizes herself with the *material geography* of the laboratory, learns about those who surround her together with someone who has already elaborated a map of this reality and can share it with her. As also Lave and Wenger affirm, the apprentice often learns from the relationships he or she establishes with other novices and from the circulation of information which tends to constitute the conditions for learning itself.

At first, Margherita focuses on elementary but highly important matters: cleaning the workbench, discovering where the most commonly-used objects, such as the containers where events and materials crucial to the laboratory—the cells, the primers, the test-tubes, etc.—are kept. She discovers the scientific articles scattered around, the students' pipettes, begins to recognize the everyday gestures, experiments the first stages of acting, or rather, acting in its first stages. At random in a notebook, she writes down details of the information she begins to select: what some object is called, a telephone number, the names of suppliers, some notes on *primers*, the access code to the computer, small but vital details to hang onto in these first days in which she feels like she's holding her breath. The space is densely populated with heterogeneous objects, which serve theoretical and practical functions and will gradually be embodied and domesticated by Margherita. Pipettes, hood, fridge, computer and microscope will be the instruments she has to gradually become familiar with. Primers, cells, DNA and laboratory animals will be other partners she will have to deal with, and ally herself with, in order to achieve the

expected results. On top of that, there are also colleagues, peers and seniors with whom Margherita will share her process of socialisation and become familiar with the practice that is going to transform her from a novice into an expert.

Her activity must find its place in a network of actions and the human and non-human actors that make up the context. This is not a given thing: it is not a closed container in which she must find her space, but rather an articulated system of relationships, a fabric (Goodwin 1994) that she must contribute to building and weaving.

One morning I observe that Margherita, watched over by Marta, the senior colleague she will be working with, will carry out her first PCR methodology for an important project in the laboratory. She has been assigned a task: the project she is involved in is not simulated, but an authentic research project involving the study of DNA in a neurodegenerative illness. Margherita is introduced to the practice and is given the key elements to legitimately approach the tasks she has to learn. I therefore decide to follow Margherita's first steps in action. She studied the PCR technique for her molecular biology exam and has seen it done by others: now it's her turn. Let's follow Marta and Margherita as they approach the practice that the newcomer will have to learn. With a quick hand-drawn diagram, Marta shows Margherita how the process they are about to start up will develop.

While Marta and Margherita set things up for the PCR, all the others in the laboratory are otherwise occupied: at their workbenches, computers, using measurement technologies, quantifying, at the centrifuges, at one of the PCR machines, in the cell room, bent over a workbench, waiting for the use of a machine, standing at work in the chemical hood or seated and reading with concentration: everyone's material time is programmed. The networks of practice all around her sustain her in the task she is beginning to carry out: they provide a world of reference that supports and comforts her.

Margherita dons her white coat and gloves and, following Marta's instructions, goes to the fridge to get ice for the biological samples. "*First of all, clean the workbench and wash your hands, you have to get ready to manage the situation well*" says Marta, and Margherita gets methylated spirit and begins to clean the workbench precisely and thoroughly. Still following Marta's instructions, she also cleans the pipettes she will be using. Workbench ready, Marta says "*let's go to the computer to draw up a plan for carrying out the various phases of the experiment, an action map we can follow*". Having prepared the plan, they return to the workbench and Marta begins to explain what Margherita is about to do. Margherita takes down quick details in her notebook. Now Marta is explaining the steps, the dilutions to be made. Margherita prepares the pipette carefully, and Marta shows her how to use it. Margherita prepares the test-tubes, makes a note of the dilutions they contain but continually asks for confirmation from Marta. Margherita has to be very careful not to touch the rims of the test-tubes with the tip, as if she manages to do so, Marta tells her, she can continue to use the same tip, otherwise she has to throw the tip away and get another. Margherita notices that she has touched the rim of the pipette with the tip and says, "*No, I've wasted one, I touched it!* " She is able to feel that she touched the rim of the pipette with the tip, so her sensitivity has already developed.

She has enhanced her situated perception skills. Now there is an exchange of perceptions and sensitivity between them, they don't talk much: each of them, to a greater or lesser degree, knows what she has to do. This link with the elements of the practice accelerates their perception and sensitive competency (Viteritti 2013).

Margherita makes a note of what she has done until now in her notebook, she can't be expected to remember it, every gesture must be recorded in her notes: that night she will go through them, certain now of what she must "do", but it's important to memorize the process, the direction, the chain of events in their order. Margherita arranges the test-tubes and puts them back on ice. "*Now we'll prepare the dilutions checking the measurements with the plan we prepared beforehand on the computer*". Margherita needs to concentrate on the movements of her hands and the focus of her attention. Slowly, at first uncertain and then more and more sure of herself, encouraged by Marta, she proceeds. "*Now we'll move on to loading the samples into the multiwell*", says Marta as she shows her how to pick up the Petri dish and warns her of the constant risk of contamination: "*the Petri dish mustn't be held between thumb and middle finger leaving the index finger suspended, but should be held using thumb and index finger, look, like this, never move your hands directly over the dish, organize your workspace well*".

They load the multiwell onto the PCR machine and from then it will take 2.5 h to achieve results. After the loading, Margherita can relax and takes a deep breath, as if she had been holding it until then. She says, "*You're there, a bundle of nerves and concentration, listen to me, I'm hoarse, I'm done in, but it's great*". While waiting for the results, they place the primers back in the box and put the box in the fridge. The waiting time since the multiwell was uploaded onto the PCR machine has elapsed, so they now look at the results. During the experiment Margherita has tested her perception of the social and material space, the sensitivity of her hands, of her eyes, of her touch; she has started perceiving, hearing, seeing, trying to understand. In her dialogue with Marta, she has been engaged in expert communication and introduced to the most relevant area of laboratory practice. She is a novice, but her participation is not peripheral: right from the beginning, she has got to the heart of an experiment that, while it is a routine procedure, is also fundamental for the project they are working on. She has started establishing relationships and becoming familiar with technological and bio-technological artifacts, such as pipettes, *primers*, centrifuge, computer, PCR machine, DNA, measuring instruments, etc. In critical moments, Margherita has learned by making mistakes; her gestures are not repetitive and taken for granted yet, but her body is receptive. Margherita has plunged into the laboratory world, perceiving it, moving her body in a temporalised space, getting to the heart of a process of embodiment of objects and functions (Yakhlef 2010). Her body starts being disciplined without her being fully aware of it. She is still quite tense, but she already feels the corporeal density of the practice she is becoming familiar with. Margherita's access to the practice was not marked by explicit moments of theoretical teaching. What is important, for Marta (as well as for Margherita), is learning a specific task while carrying it out. This shift from teaching to learning in practice was also pointed out by Lave and Wenger (1991). Through her efforts, here exemplified by the episode of the PCR test, Margherita

establishes a meaningful and passionate relationship with the materiality of practice: there is no knowledge beyond its practical application. Even developing dexterity in handling tips or creating new concepts is a practical exercise, a learning *effort* that also involves objects (Gibson 1986). Scientific knowledge, as shown in the above-mentioned episode, does not lie somewhere in people's heads or in metaphysical laws, but is socially constructed through the accumulation and fine-tuning of skills developed, embodied and sharpened to solve everyday problems: the struggle for knowledge is conducted through the appropriation and sharing of problem-solving skills and training.

In the space of a few weeks, Margherita has mastered the practice. She has inserted it in a more ample context of things she has learnt, with regard to which she is now completely autonomous. Now the PCR tests are in the order of hundreds, while at the beginning she did three or four a day. She has become swift and expert. She has learned to move across a plurality of practices and has also acquired competence in cell biology. She is able to distinguish different cell lines and develop her own work plan, and her results contribute to the others' tests. When Margherita enters the laboratory, it is already an established environment, and she ventures into this contest with her hands, her glance, her thoughts: she slowly becomes familiar with the malleable objects (both technical and biological) in circulation there. Thus her autonomy, her competence of movement and her ability in interpreting the events increase, and as Margherita familiarizes herself with the material context, her attachment to events grows (Hennion 2004). Margherita has now mastered not only "how things are done" but her actions have also acquired a rhythm, a fluidity which is apparent in her explicit use of language. Autonomy manifests itself in a stronger link with all the human and material events.

Some Conclusions

> *The knowledge, the subjects and the objects of knowledge may be understood as being produced together within a situated practice* (Gherardi 2001, p. 2).

This is what emerges from my observation of Margherita's entry into the laboratory and her practical training. From this little story, we can see how knowledge takes shape and how it resides within social relations mediated by technical objects.. In order to master the practice, which is neither linear nor progressive but rather intermittent and circular, Margherita learns by imitating and is inspired by random, situated stimuli which emerge from daily practice. Her daily practice is closely linked to the practice of others, her colleagues in the laboratory who represent a relevant imitative source (in the open-space workplace, at the workbench, under the chemical hood, in meetings where results are discussed). Margherita follows an individual trajectory of her own, but this is built through *effectual reciprocity* with other heterogeneous elements which she encounters in practice. Margherita has domesticated herself, established a relationship with objects and learned to develop independence and awareness. The docility, efforts and difficulty of the process of

appropriation are a result of the intertwining of heterogeneous elements, as well as of self-discipline (Kaiser 2005), which is the individual's contribution to the learning process. Margherita's training is represented by a chain of sociomaterial processes rich in human and non-human elements.

The episodes related to Margherita's learning process show that there is no precise and pre-established order of events, no explicit set of knowledge to be taught: knowledge is rather situated in the practice and emerges from a process of appropriation of *knowing in practice* (Gherardi et al. 2007), this depends on the knowledge experienced and developed in specific situations. The process of *knowing in practice* is *distributed* across objects and tools (Hutchins 1995), embedded in technologies, rules and procedures. In Margherita's growing number of relationships and connections with the heterogeneous elements in the field (the management of the workbench, the progressive dexterity in handling pipettes, the relationship with the cells under the hood, the knowledge of instruments, the domestication of their use, the adaptation of her senses to the use required by the objects in the field, etc.), in her increasing appropriation of the environment and internalisation of the context, she establishes a stronger inter-individual and inter-objectual connection with the elements in the field. The little story of Margherita shows that it is much more productive, from an analytical point of view, to develop a *post-humanistic approach to learning*, because: through this theoretical sensitivity, objects, technologies and space are no longer 'matters of fact' (objects in a static sense), rather they become 'matters of concern' in educational practices, for practitioners as well as for researchers (Landri and Viteritti 2010). Margherita is interconnected with the world of *objectual practices* (Knorr Cetina 1997, 2001) and the material objects become part of her field of relationships. The materiality of the laboratory world, which makes it possible and accompanies the daily process of knowing, is not cold and distant, but becomes familiar, absorbing and close (Gibson 1996; Gherardi et al. 2007).

This story has tried to express the sociomaterial relevance of the practical learning produced in her debut in the laboratory, in the relationship between the biotechnological *objects* and the *sensible knowledge* (Strati 2007) of the researchers, the appropriate expertise which is expressed through the sensitivity of the learner and is linked to the practical context.

As we have seen in the case of Margherita, in the laboratory, it is often the young who are in charge of the routine daily events (from managing all the experiments to caring for the technologies to caring for the cells on a day-to-day basis) and who monitor the greater and lesser uncertainties (checking the infrastructures, managing minor accidents, etc.). Their seniors intervene to correct the course of events, to monitor the results, to programme future steps, but it is the young who govern the everyday laboratory life and who elaborate the fields of practice. Day by day, the novices handle the link with the materiality of practice: they support it experimentally and stabilize it through the care and precision they put into their daily actions. They are the true regulators of daily events: in fact, they manage crucial routines, look after the cells, keep the workspaces tidy, keep up with the details of experimental work practices, do and re-do everyday tasks with the same care and meticulous

attention. Without them, scientific work would lose both density and intensity. Their contribution is therefore in no way peripheral: they are at the very "heart" of daily practice. Of course, in order to gain full recognition, their practice must be firmly anchored to the work of their more expert colleagues, whose developments in scientific work are *founded* totally on the experimental practices the novices accomplish day by day. Probably the most important thing to emerge is that often when observing the practice of laboratory work—and not only in this environment, but also in a wide range of workplace contexts—I have noted how it is the work of the beginners which sustains the knowledge of the competent, and allows it to develop.

The aim of this chapter was to suggest that situated learning among novices in the laboratory supports the experts' practices. This occurs through forms of participation which soon become central as the novices immediately enter into the entirety of the sociomaterial networks of relationships linking people, activities, materials and the world which constitutes community practices (Gherardi 2009). Learning thus amounts to a *social* practice which demonstrates the interdependence between the actor and the world surrounding him. In this sense, the *peripheral* status of the novices does not contrast with the experts' *full participation* (unlike what Lave and Wenger affirmed in their work). The newcomers immediately participate fully and this is expressed through the continuous situated negotiation of the interaction's meanings. All these activities favor the dissolution of the dichotomies separating mental and concrete activities, abstraction and practical experience.

Apprenticeship in practice is ever more crucial in contemporary society, also due to the fact that it is motivated by the high degree of professional specialization required and the emerging role of technology. Sometimes the young people themselves (already socialized to technology and technical artifacts) gain immediate access to technical means and it is not only formal learning that can guarantee the only opportunity of acquiring the skills for negotiating them. Practical experience draws up a *situated curriculum of learning* for apprentices: it constitutes a situated opportunity for the development of practical abilities and taking part in a community means learning its languages and material culture.

From the little tale of Margherita, we can see how university experience—articulated between lecture hall, practice, internship and laboratory—can constitute an early socialization to practice. In any case, laboratory practice is a continuation of formal university training in another form. This is not because work practices in themselves are capable of controlling and guiding formal educational practices, but because formal education without complementary practice is as if mute and lacking in ductility. By extending the concept of LPP to university training, we can explore and expand the concept of participation, which includes formal learning environments as well as practical learning contexts. The concept of periphery, too, is debated and enriched. Where is periphery situated in an academic context? University learning occupies an extensive area of legitimacy, ranging from the lecture hall, to the place of experimentation of codified disciplinary knowledge, to training experience acquired through laboratory work. One becomes expert in the translation of codified disciplinary knowledge, which becomes sensitive experience in experimental practice in the laboratory: the learning process is completed through practice

among the workbenches, microscopes, measuring glasses, machines, tools, molecules, cells, etc., but is structured in the lecture hall among desks, books, exams, evaluations and theses. In Higher Education, novices encounter objects and subjects of knowledge in the transition from the lecture hall to the laboratory, and through them gain mastery of know-how and practical dexterity in a trajectory which is neither linear nor standardized. When they arrive in the laboratory, the novices already possess knowledge to be put to the test and experimented, they already have questions to ask and hypotheses to investigate: they have a theoretical experience of study, and when they arrive in the laboratory they very soon become those who sustain the research work. They immediately enter into the heart of authentic practice.

Margherita's story therefore allows us to observe the chain between learning and practical work experience. From it, we see how disciplinary knowledge, rigidly compartmented in scholastic learning (Engestom 1995), is disarticulated and becomes know-how incorporated through practical experience, which is not merely cognitive apprenticeship (Collins et al. 1987), but rather becomes incorporated practical knowledge. The laboratory becomes a pedagogical workplace where practices are co-participated between subjects and artifacts (Billett 2002). In the laboratory, the formal university curriculum is translated into practice: it is situated within the practice (Billett 2002: Billett 2011; Gherardi 1998) and made available as a socializing device for instructing the novice in the context of working activities. Within this pedagogical space, the novice learns through the senses and the body and through the sociomaterial mediation of humans and artifacts (Law 1987). In this way, he or she swiftly masters the rudiments of practice.

The learning practices which are activated in this pedagogical context deploy subjects, objects and the relationships between them, and this process produces a heterogeneous fabric of sociality, of which the novice becomes an integral part. The pedagogy activated in the scientific laboratory context fosters the co-existence of learning practices and academic interests, producing tension between codified knowledge and unstable expertise in evolution, between the procedural standards and artisan skills incorporated by both novices and experts. Only by integrating these two types of knowledge can a robust university training and qualification be achieved.

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Chapter 10
Practice-Based Learning in Community Contexts: A Collaborative Exploration of Pedagogical Principles

Judith Smith, Natasha Shaw and Jennifer Tredinnick

Abstract The primary focus of this chapter is an exploration of four pedagogical principles emerging from a practice-based learning lab. Following an overview of community engaged learning and the Lab approach, the chapter is structured around a discussion of pedagogical principles related to (1) collaboration, (2) interdisciplinarity, (3) complexity and uncertainty and (4) reflection. Through a participatory action research (PAR) framework, students, academics and community partners have worked to identify and refine what it takes to support students negotiate complexity and uncertainty inherent in problems facing communities. It also examines the pedagogical strategies employed to facilitate collaboration across disciplines and professional contexts in ways that leverage difference and challenge values and practices.

Keywords Community-engaged learning · Community-based projects · Participatory action research · Interdisciplinarity · Service learning

Introduction

Institutional objectives that university graduates become competent practitioners in their field have moved beyond requirements of assimilating the codified declarative, procedural and causal knowledge of their disciplines (Zack 1999) to contemporary expectations of students embracing the capacity to work creatively and deal with uncertainty in diverse interdisciplinary contexts. Employers, government and students are driving the demand for graduates with these skills in more than one discipline and the ability to work creatively with complex real world problems. The Australia in the Asian Century White Paper (Australian Government 2012, p. 2) identified and stated that the capabilities that are particularly important for the Asia century include "using creativity and design thinking skills to solve complex problems".

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_10

Similarly, The Australian Workforce and Productivity Agency Discussion (2012, p. 26) anticipated that "there will be a growing demand for multidisciplinary workers". And the Australian Medical Council Limited (2010), a professional body engaged in medical education, published a consultative paper identifying the necessity and value of graduate skills such as, "individual and societal responsibility, decision making in ambiguous situations, dealing with uncertainty and the development of personal attributes across the continuum of training" (Australian Medical Council Limited 2010). Within such a context of increasingly high expectations that university graduates will meet the multidiscipline skill demands of occupational practice, The Grattan Report (Norton 2012) indicates that approximately 13 % of students in Higher Education in Australia are undertaking double or mixed field degrees. While this number is increasing there are often only limited opportunities within double degree course structures where students can integrate their areas of study. Given that practice-based learning experiences provide students with a unique opportunity to integrate and apply the discipline knowledge of their degree/s there is a pressing case to redress the proposition that missing from higher education discourse is a deep understanding of how the higher education curriculum might best be designed and enacted to support students' multidiscipline learning. This includes how curriculum needs to adapt and indeed transform to meet the demand for graduates who are ready and able to tackle the uncertainty and complexity that characterises the challenges of the twenty-first Century.

These challenges, in part, relate to and emerge from the accelerating pace and the changing ways knowledge is generated, managed and exchanged. Universities are no longer seen as the gatekeepers of access to and engagement with information and innovation (i.e. forms of knowledge), but rather, are one option in a myriad of higher education learning opportunities and pathways. To stay relevant in the increasingly competitive higher education sector universities need to examine what value they are able to add to an individual's learning experience. One way universities add value is through integrating practice-based experiences in the curriculum to help engage students in collaborative critical thinking and problem solving through immersion in the uncertainty and complexity of real world problems. This is particularly true of inquiry-based real world experiences like those undertaken in the Community Engaged Learning Lab, a university-wide community-engaged learning initiative at one Australian University. Through the Lab, academics, students and community organisations work together to develop and implement interdisciplinary community-engaged learning projects that support student learning through addressing the needs of the community organisations involved. The community organisation is the primary partner and source of the real world experience in which students are engaged. The issues or problems that are the focus of the project's inquiry are initiated by the community organisation.

Drawing on the experiences of the Lab's operation in the last 2 years, this chapter explores some of the emerging pedagogical principles and practices that aim to facilitate student learning in this interdisciplinary community engaged learning environment. Through a participatory action research (PAR) framework students, academics and community partners have worked to identify and refine what it takes to support students negotiate complexity and uncertainty inherent in problems facing

communities as well as to collaborate with others from different disciplines and professional contexts in ways that leverage difference and challenge their own values and practices. The PAR framework employed over a number of Lab cycles has enabled these key stakeholders to become co-creators in the framing and refining of the way this practice-based learning is planned for and enacted. PAR has positioned all stakeholders (students, academics and community partners) as having valuable perspectives and in doing so these stakeholders have been given agency and authority in the process of curriculum design. The primary focus of this chapter is an exploration of four pedagogical principles emerging from the Lab. Following an overview of community engaged learning and the Lab approach, the chapter is structured around a discussion of pedagogical principles related to (1) collaboration, (2) interdisciplinarity, (3) complexity and uncertainty and (4) reflection. The chapter then concludes with a discussion of key challenges and future implications of an institution-wide approach to community-engaged learning.

Community Engaged Learning: Value-Adding to Practice-Based Learning in Higher Education

There is increasing pressure on universities and industry to provide practice-based learning specifically placements and internships. Both students and the professional accrediting bodies are seeking to ensure these experiences are embedded and assured as part of university program. There are clear benefits to students arising from quality practice-based experiences particularly where students are guided to undertake their practice by expert practitioners. Quality practice-based experiences enable learners to apply their discipline knowledge and skills, deepen this discipline knowledge and to become familiar with the professional practice norms of their profession. Exposure to these professional practices across a range of professional practice settings assists to acculturate students as emerging professional into the profession. For the novice student practitioner exposure to a range of contexts is what builds increasing degrees of professional competency (Dall'alba and Sandberg 2006).

While the traditional placement model of practice-based learning provides high impact learning experiences, the increasing demand for student placements makes finding suitable, quality placements challenging and highly competitive between students and universities. This in turn presents issues regarding equity and access, as universities strive to provide equitable opportunities to all students. The time and resources involved in securing suitable, quality placements and developing materials and mechanisms that support the supervisor/student relationship is intense. This raises questions within higher education research to provide evidence to validate the cost and educational effectiveness of the placement model. There is limited research available about the types of practice-based learning that best support student becoming practitioners. The value of the placement experiences for students is undeniable (Orrell 2011) however, logistical concerns have pushed universities to think creatively about how practice-based learning might be experienced by students.

There are a range of models of practice-based learning that present an alternative to placements that have been recognised as adding value to student learning. Kuh (2008) referred to service-learning and community-based learning as being some of the high impact learning practices that support students to practice integrative and applied learning (Kuh 2008, p. 16). Kuh (2008, p. 16) identified that these community engaged learning practices "model the idea that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life".

Community-engaged learning and service-learning are a well established pedagogy in North America and are of growing interest across higher education in Australia. The success of community-engaged learning as a powerful strategy to teach and encourage engaged citizenship is well-documented and there is consistent evidence that participating in community-engaged learning enhances students' 'work, career and future ready' skills, such as leadership, career decision-making, communication skills, teamwork and intercultural competency (Carrington and Selva 2010; Harris et al. 2010; Milneet al. 2008; Prentice and Robinson 2010). Community-engaged learning recognises and engages the whole person in learning, including their embodied and emotional responses and uses shared reflective strategies to help make sense of experiences. Personal and social transformations become intertwined in the learning process by engaging the head, hands and heart (Sipos et al. 2008). As Meyers, (2009, p. 380) states—"it provides students with an opportunity to use their experience to discover who they are capable of being and what they are capable of doing". How community-engaged learning is enacted varies greatly across institutions and disciplines. What appears to unify the pedagogy is an underlying values-based framework. Butin (2003) articulates this framework as the four R's of community-engaged learning: respect, reciprocity, relevance and reflection. Respect for members in the community-engaged learning organisation; reciprocity, where the server interacts positively creating mutual outcomes; relevance where the community-engaged learning pathway adds to academic learning and reflection that enables the participant to make pertinent meaning of the experience (Carrington and Iyer 2011). Furthermore, community engaged learning exposes students to different professional values and practices and by doing so creates opportunities to disrupt and challenge the norms of their own professional practice. So while practice-based learning experiences within the practice environments of the profession support students to be initiated or assimilated into the social and professional values of their professional, opportunities to engage with other professionals particularly in the not for profit sector enables students to be exposed to other ways of working and seeing the world.

The Community Engaged Learning Lab

The idea to develop a cross institutional-approach to interdisciplinary community engaged learning emerged from a university-wide Work Integrated Learning Community of Practice and from community organisation partners. In this way the

initiative responded to a shared concern and interest from academics and community organisations to find ways to enable students to contribute to the community through meaningful practice-based learning experiences as well as explore cross faculty collaboration in this area. This interest was driven by many contributing factors: the increasing number of dual degree students; the limited opportunities for students to combine their areas of study within one unit and; a strong evidence base that advocated service-learning and inquiry based learning as a high impact learning experiences and a desire from community organisations to engage further with different disciplines across the University.

Academics collaborated with students and community partners in the development of the shared Lab curriculum. This collaboration enabled the design of the Lab to draw on diverse perspectives including a range of discipline expertise, pedagogical approaches and professional practices. Academics and community partners co-facilitated shared community-engaged learning events which engaged all student teams. Curriculum and assessment resources are shared across units and projects. Additionally each project employed a range of specific strategies relevant to the nature of the student group and project focus. A Community Liaison role was created in the university Learning and Teaching Unit to facilitate project connections between community organisations and relevant discipline areas. This role is also responsible for promoting projects to students, managing applications and disseminating resources through community community-engaged learning websites.

Disciplines involved in the Lab include law, justice, business, psychology, social work, science, information technology and creative industries disciplines such as performing arts, fashion, interior design and interactive design. Students enrol in their faculty based unit, however all units share core learning goals. The Lab's learning goals include:

- Identifying and applying engagement strategies which support students as emerging professionals to work sensitively and appropriately with diverse communities and individuals
- Building awareness of the complexity of issues associated with privilege and disadvantage and social injustice as it pertains to questions being explored with community partners
- Developing approaches to inquiry that values diverse perspectives and leads to mutually beneficial outcomes for stakeholders
- Exploring interdisciplinary ways of working when investigating real and complex issues facing communities

The Lab projects are purposefully designed to allow for student input into each project focus, process and outcomes. This approach is designed to support students' engagement and active participation in the solving of real world problems which in return leads to enhanced learning outcomes for students (Kuh 2008) and the community organisation. This more open approach to projects came from student advice provided in the stakeholder roundtable discussions. At the roundtable students identified their desire to have a more active and participatory role in the design phase of the projects. Students recognised the need to listen carefully to community organisations to make sense of the community issue, however they also felt that

being able to contribute to project design, process and possible solutions would allow them more creative input and engagement in the project. As a result and in the spirit of collaborative inquiry the community partners couched their issues/project focus as a broad framing questions rather than directives for outcomes. For example: instead of "make a website" the project brief read "How can we best communicate around this issue?" Each semester students, working in interdisciplinary groups, design and undertake projects in collaboration with community partners. In considering an aspect of a complex community issue, each student group builds on the work of past student groups and at the conclusion of the project provides recommendations for future student project work. Through the Lab students are provided with the opportunity to apply their discipline knowledge to these complex problems but are also supported in developing their capacity to engage respectfully with the community and other students across discipline boundaries.

In the Lab, students engage with community organisations that are not necessarily related to their own disciplines. This assists students see the relevance of their discipline skills and knowledge to the wider community and the issues facing our communities. For example, homelessness is an issue that you would not immediately associate with marketing or animation, yet, in the context of the Lab, students from these disciplines examine how their discipline knowledge and skills might be best be deployed to consider this issue and in turn, how they may be able to contribute to addressing at least one aspect of the bigger picture issue. Community engaged learning exposes students to value propositions and ways of working operating within the not for profit sector that may contrast significantly from the practice approaches in the industry sectors were they have experienced placement. Additionally the Lab provides an opportunity for students to explore how their personal values and motivations might align with the not-for–profit sector and for some students it is opening their eyes to alternative career pathways in this sector. In the development and implementation of the Lab there was a conscious effort made to learn from and incorporate into the curriculum the values and approaches to engaging with others modelled by our community partners. This acknowledged the experience of those working in these fields and the valuable contribution this expertise made to student learning.

To date, data collected from student focus groups, interviews with community partners, and evaluation of events indicate that this initiative has lead to mutually beneficial outcomes for community partners, students and academics. Students valued the opportunity to work in interdisciplinary teams to consider real community issues that matter and often spoke of how their experiences of the Lab have been transformational both personally and professionally. The community partners have embraced the opportunity to explore their issues with young people and academics from different disciplines and reported that they valued the fresh new perspectives and insights provided by the interdisciplinary approach to this collaboration. Community partners commented that the Lab enabled them to increase their networks, stay up to date with current research and technology across a broad range of disciplines. Interdisciplinary engagement with the university was also considered favourable by community partners as it provided community organisations with a greater understanding of resources available across facility boundaries within a university.

Emerging Pedagogical Principles

In the following sections four of the pedagogical principles driving the Lab curriculum are explored and discussed with examples. These principles are:

- Support for a collaborative inquiry approach
- Foster interdisciplinary approach to real world issues
- Embrace and leverage uncertainty and complexity
- Encourage structured reflection as an enabler of transformative learning

Principle 1: Support for a Collaborative Inquiry Approach

> The Community Engaged Learning Lab is underpinned by an inquiry approach to collaboration between stakeholders, leading to mutual beneficial outcomes for all stakeholders.

Establishing the Lab and enacting the Lab projects requires sustained, multilayered collaboration. This collaboration occurs across discipline boundaries within the university, with community partners and with and between the many layers of staff at those organisations, between academics, community partners and students, and finally between students working together in interdisciplinary teams. Early discussion with the academic team and Lab advisory board explored a number of frameworks that could guide the collaborative focus of the Lab and provide reciprocity of outcomes founded in mutual respect and understanding of each other's needs. Participatory Action Research (PAR) was selected as the inquiry framework for the two levels at which the Lab operates. Firstly the Lab as a whole which investigated the big picture questions around how stakeholders work together at a strategic level to support community-engaged learning and secondly, the process of collaboration and inquiry for individual projects. The principles of collaboration and reciprocity underpin both community engaged learning pedagogy and PAR. Both acknowledge that there are a range of stakeholders: students, organisations in the community, academia, university administration, and the community at large and that all parties have the potential to learn from, and contribute to the experience (Bringle et al. 2009). PAR also supports an inquiry project-based approach to community-engaged learning. PAR embraces ideas of knowledge as experimental, context-dependent and socially constructed. PAR is knowledge producing (Bradbury and Reason 2008). Further the critical pedagogy underpinning PAR invites students to collaborate with other stakeholders to develop their knowledges and understandings about the local context and consider the issues of disadvantage and privilege as their play out through the issue at hand. The PAR framework provided students and academics from across all faculties and community partners a shared language and approach. This framework assisted stakeholders develop their capacity to negotiate complexity and uncertainty when collaborating with others from different disciplines and professional contexts in ways that leverage difference and challenge their own values and practices.

In recognition of the cyclical nature of participatory action research projects are designed to be ongoing and not static. Each semester student teams collaborate with community partners through PAR process which is "cyclical yet dynamic, consisting of interrelated moments of initial observation, reflection and planning—followed by action, observation, reflection and sharing at student, individual project and Lab wide levels". (O'Connor et al. 2013, p. 125). At the end of the semester student groups reflect on their processes and outcomes and make recommendations for future investigations by student teams.

PAR comes from a social constructivist perspective; that knowledge and learning are shaped by social and cultural values, as well as individual experiences (Murphy et al. 2012). This way of thinking and understanding recognises knowledge and learning is not universal across disciplines and is an approach that sits firmly in soft-applied corner of the nature of knowledge and the nature of knowing (see Chap. 3). The Participatory Action Research framework has therefore enabled the key stakeholders in this curriculum initiative to become co-creators in the framing and refining of the way this practice-based learning is planned for and enacted. PAR has positioned all stakeholders (students, academics and community partners) as having valuable perspectives and in doing so these stakeholders have been given agency and authority in the process of curriculum design. Considering the incongruence of this approach for some disciplines such as Information Technology and Law it has been encouraging the extent to which students and academics have embraced Participatory Action Research as a framework for community engagement across disciplines. Student feedback includes comments such as:

> The core thing I've taken away from this project is an awareness of the importance of participatory action research….It is [now] a logical step to me, to consult with the people who are affected by an issue and let them bear in on the process… (Law Student 2012).

Numerous strategies are employed in the Lab to enable students engage with different knowledges, values and practices, to consider how their own knowledges, values and practices relate or contrast to those present from the community organisation. Reflection and dialogue are employed to make explicit the implicit values, which inform, drive and motivate behaviours in this setting. Moreover by exposing students to values and social norms from different disciplines and sectors we are challenging students to consider the discipline values they take for granted in their practice.

The Lab's collaborative inquiry approach is supported at both macro and micro levels. For the Lab as a whole this is achieved through roundtable events where students, academics and community representatives discuss their needs and expectations, approach to Lab curriculum design as well as its successes and challenges. For each Lab project this collaborative inquiry involves ongoing dialogue with and between stakeholders before during and after project cycles, and by stakeholders sharing their values and ways of working such as person centred practices and the strength based philosophies that underpins community partners, work with community (O'Brien and O'Brien 2000). The Lab curriculum design employs a range of curriculum and assessment strategies to enact the principle of collaborative inquiry. At the beginning of the semester students are introduced to the four R's values

framework of community-engaged learning and the PAR framework. Throughout the semester students engage with workshop activities and resources that support the PAR approach of engaging, acting and reflecting as well as their critical points of connection. The three assessment tasks also focus students' attention on the processes of inquiry. Firstly, the project proposal required students to identify stakeholders and explicitly plan strategies for engaging these stakeholders throughout project and clarify the project scope of inquiry and proposed outcomes. Secondly, as part of their reflective blog assessment students were also asked to consider the relevance of the PAR process to their discipline practice. Thirdly, in the final presentation assessment to community partners, students were asked to share insights into the collaborative inquiry process and strategies for engagement employed as well as project outcomes and future directions for the project. While there was a shared assessment framework and criteria there was room for each academic lead to adapt the task to suit their discipline focus.

Principle 2: Foster Interdisciplinary Approach to Real World Issues

> The Community Engaged Learning Lab is intentionally designed to enable students across the university to engage in interdisciplinary teams to solving complex and real issues facing communities

Challenges facing our communities require new ways of thinking about problems at the boundaries and intersections between disciplines. To acknowledge the complexity of the issues facing our communities an interdisciplinary approach, grounded in a Participatory Action Research framework was developed. Interdisciplinarity for the purpose of the Lab is defined as "the capacity to integrate knowledge and modes of thinking in two or more disciplines or established areas of expertise to produce cognitive advancement—such as explaining a phenomenon, solving a problem, or creating a product—in ways that would have been impossible or unlikely through single disciplinary means" (Mansilla et al. 2000). There is evidence that interdisciplinary curriculum and pedagogies help facilitate students to develop boundary crossing skills in the addition to a deep awareness of their domain specific knowledge (Spelt et al. 2009; Strober 2011). Boundary-crossing skills are, for instance, the ability to engage with different discourses, to take account of multiple perspectives, to synthesize knowledge of different disciplines, and to cope with complexity (Spelt et al. 2009). It is recognised that there are a range of cross, multi and inter disciplinary models and approaches (Mansilla et al. 2000). The focus of the Lab is on interdisciplinarity, because interdisciplinarity is integrative, which synthesizes a wealth of different knowledges, unlike multi and cross-disciplinarity which are additive, with little blurring of boundaries (Spelt et al. 2009).

A benefit of interdisciplinarity is the opportunity to recognise and realise synergies between approaches to collaboration from different discipline perspectives. In curriculum design discussions with stakeholders, design thinking emerged as an approach that would enrich and enable collaboration across disciplines, particularly

in regard to progressing student focus from the enormity of the issue to hopeful and positive solutions. Design thinking emerged over the past decade as a methodology that recognises the value of its problem solving processes to businesses and social contexts outside traditional design industries. Design thinking encompasses and focuses on the problem before stakeholders commit to the production of artefacts or services (Kimbell 2011).

In assisting PAR, design thinking effectively initiates the 'planning with others stage' in week three of the Lab programme, following the initial observation, reflection and sharing stages of the PAR process. Through an approach of questioning and responding, the design thinking workshop encourages student teams to develop possible solutions to the community social issue. It shifts the focus from the problem to the exploration and prototyping of constructive, creative and hopeful solutions (Brown and Wyatt 2010). Like PAR, "design thinking begins from a position of building deeper empathy and understanding for the needs and motivations" (IDEO and Riverdale Country School 2012, p 11) of those impacted by the issue.

Design thinking provides threefold benefits which enrich the processes and outcomes of the Lab projects- It's collaborative, human-centred, and optimistic (IDEO and Riverdale Country School 2012). A design thinking workshop to assist students plan their project provided the tools to allow student team members from different disciplines have an equal opportunity to contribute to the solution. Design Thinking is underpinned by the premise that "several great minds are always stronger when solving a challenge than just one" (IDEO and Riverdale Country School 2012). During the workshop, each team participates in a tower building exercise using spaghetti and a marshmallow. This activity helps students look at how they work together as a team, recognize different ways of problem solving and the personalities and qualities of each member in ensuring that everyone has a role to play (Wujec 2010). The activity works to acknowledge difference as an integral element of collaboration. In its theory, design thinking advocates that its approach "taps into capacities we all have" (Brown and Wyatt 2010). It embraces equality of contribution from all collaborative partners and their stakeholders and shifts the focus from the traditional problem solving methods. Its human-centred approach considers at its heart, the culture and needs of its community.

By taking on a more complex interdisciplinary project based approach to community-engaged learning it was recognised that there is learning for all parties which, hopefully, result in an enriched form of reciprocity in which authority is shared and transcends self interest to create greater meaning and relevance (Enos and Morton 2003; Mitchell 2008). Students' final reflections on their project, an assessable component of their final presentation to peers, community and academics, strongly endorsed the value of working in interdisciplinary teams. They valued the opportunity to explore issues from different perspectives; to identify and articulate the discipline knowledge and skills which they might contribute; and finally, to work across discipline boundaries to explore solutions to issues in ways that challenge their frameworks and ways of thinking and working. Community partners also embraced an interdisciplinary approach to Lab projects. The community partners recognised the benefit of interdisciplinary student teams and the range of knowledge

and perspectives that this approach would bring to an exploration of their issue. For the students the interdisciplinary approach made them more conscious of their own discipline knowledge and skills and helped them develop a greater awareness of and respect for other perspectives. It required students to communicate their own discipline specific knowledge, skills and processes in ways that are accessible to others. It also required all participants to develop a level of intercultural competency that values diversity, promotes equity and strives for inclusion.

Interdisciplinary learning was and is unfamiliar territory for many academics as well as students. A number of strategies were developed to support project mentors facilitate interdisciplinary processes. The academic staff participated in specifically designed community-engaged learning facilitators training, which aimed to enhance their skills to support and mentor the interdisciplinary student teams. Shared curriculum resources and online team learning modules provided students with key strategies for working in diverse interdisciplinary teams. As part of the Project Planning Day academics also shared with students the challenges of working in the interdisciplinary curriculum team in developing the Lab; revealing some of our own head and heart issues associated with the uncertainty of exploring unfamiliar territory and that there were many of unknowns (Sipos et al. 2008). Debriefing activities allowed time for students, academics and community partners as team members to reflect on their experiences and reactions to certain situations and behaviours and observers to contribute into the discussions their more objective observations of behaviours. Students also considered what barriers to interdisciplinary collaboration they might face through their project experience.

Principle 3: Embrace and Leverage Uncertainty and Complexity

> The Community Engaged Learning Lab recognises complexity and uncertainty are inherent to real world problems and provide students with strategies to manage and leverage these elements when solving problems.

There are calls for higher education curriculum to better prepare students to deal with complexity and uncertainty, which comes with the wicked problems facing our communities. To better prepare graduates, universities need to create opportunities for students to build confidence to manage, embrace and channel the power of uncertainty. Uncertainty is inherent in all collaboration and finding creative solutions to wicked problems often requires individuals to relinquish some element of control to enable the sharing of ideas. It requires openness and a willingness to be flexible with processes and outcomes as well as a certain level of confidence in one's own discipline knowledge, skills and capacity to contribute. Research by Madsen and Turnbull (2006) into student experiences of community-engaged learning acknowledges that at times, particularly in the initial stages, community-engaged learning can be frustrating as students face ambiguity and uncertainty.

Uncertainty in learning environments, which is not explicitly considered in the learning design and normalised as part of the process of real world problem solving can lead to frustration and tension among students and other stakeholders to

the project. Student responses to uncertainty vary across disciplines and between individual students. Students from disciplinary backgrounds such as the creative arts and design are often more familiar with uncertainty which arises in creative processes of their practice. For example improvisation is one such process that requires students to embrace and thrive on uncertainty. While the Lab pedagogy and curriculum endeavours to optimise students' creative capacity to engage with others around issues and activities important to the community, it also recognises that creativity can also foster uncertainty and students and academics need strategies to assist them to use uncertainty as a positive force to support creativity rather than uncertainty leading to a sense of uncontrolled chaos and confusion. Uncertainty can in fact provide the impetus that can lead to new levels of understanding and exploration. Rather than reducing or removing the ambiguity, strategies were implemented to manage the level of student anxiety. Uncertainty and how to manage the tensions that can arise around the unknown is not familiar ground for many students and academics.

Uncertainty is often deliberately avoided in academic curriculum. There are a number of reasons for this. The increase pressure on academics to meet performance measures and the broader higher education quality assurance agenda at times conflicts with the desire to engage students in the exploration of real world problems in practice settings. An unintended consequence of these pressures from the quality agenda seems to be a tendency for curriculum learning and assessment requirements to be designed with more specificity and certainty for students. Even in problem-based learning experiences there is a tendency to control the complexity and uncertainty inherent in problems. In early stages of a course there are advantages to limiting the variables and contextual factors surrounding problems to support student learning around foundational knowledge and skills. There are a number of academic quality assurance imperatives that seem to be driving this move towards more certainty in the curriculum including the increasing demands on academics' time particularly around research outputs means less time for teaching and learning, increases in student numbers in classes and the challenge of managing student queries which often increase in learning environments which are less prescriptive of what students are expected to do. Other pressures on academics which influence their curriculum decisions for more certainty are the need to ensure student progression rates through a unit and the desire for positive student evaluations.

It was recognised that for the Lab to provide enriching learning experiences there was a need for strategies to manage uncertainty for all stakeholders. Building a shared understanding of what is required requires significant consultation and collaboration, which is often more challenging in the first semester of a new project and new partners. Expectations around what can be achieved need to be clearly communicated with mechanisms to confirm and clarify understanding agreed upon by all parties prior to the project commencing. While these touch points are integrated into the assessment, other strategies are needed to support this collaboration. An example of this is the design thinking workshop discussed earlier which normalises difference and feelings of frustration when working with others.

Students have two key contacts at the university throughout the project, an academic project mentor and the Lab Liaison Officer. The academic mentor plays a vital curatorial role in shaping the project brief and guiding both the community partner and students through any conflict of ideas and expectations. An important aspect of this academic role is to normalise student feelings of disquiet, to build trust in the process and contextualise issues arising in an interdisciplinary team environment.

Just as the students need assistance in understanding the role of uncertainty in the collaborative process, so do academics. As the Lab continues to grow the need to build the capacity of Project Mentors is becoming more evident. Experienced Project Mentors as well as the Lab Liaison Officer are available to assist in working with students and community partner at critical points if they emerge. Professional development in the form of resources and workshops are also available to Lab Project Mentors to assist in this at times, challenging process.

Even though uncertainty has been a challenge for many, feedback from students indicates that once they accept that uncertainty and conflict are normal parts of the process Students do "become adaptive experts who both recognize and even relish the opportunity and necessity for breaking with traditional approaches and inventing new ones" (Bain and Zimmerman 2009, p. 10).

Principle 4: Encourage Structured Reflection as an Enabler of Transformative Learning

> The Community Engaged learning Lab recognises and engages with the whole student and their experiences; including their embodied and emotional responses. It uses shared reflective strategies to help students make sense of their experiences.

Community engaged learning can be a transformative experience for a student that includes their embodied and emotional responses. It assists students make connections between the cognitive (head), psychomotor (hands) and affective (heart) domains of learning. This can facilitate profound changes in knowledge, skills and attitudes (Sipos et al. 2008). Social constructivists maintain that learning is a highly personal process of meaning making (Muis and Duffy 2013). The catalyst for change is often seen as the dissonance or disequilibrium that arises between existing beliefs and new experiences with students constructing their knowledge from individual and/or interpersonal experiences and reasoning about these experiences (Kienhues et al. 2008).

The curriculum is intentionally designed to challenge students to critique justice and injustice, privilege and disadvantage and its impact on community. Early in the semester a workshop is run that aims to assist students recognise the personal, social and cultural "baggage" that they/we carry and explore how this influences the way we understand and interact with and "other" those around us. However, the most powerful and valued strategy employed throughout the Lab projects has been guided reflection. Throughout the semester project groups are provided with

readings specifically related to social justice issues relevant to their project. These readings informed student reflective blogs. Other topics for reflection related to their role as future professionals and their potential to contribute to a more socially just society (Butin 2010). The action/reflection dynamic of this critical community engaged learning pedagogy is enhanced by the PAR framework employed by the Lab, as it encourages contemplation of both personal and institutional contributions to social problems and measures that may lead to social change (Strand et al. 2003). In the Lab, guided reflection, a core component of assessment, provides the vehicle for students to make sense of their experience and examine both the historical precedents of the social problems being considered by their project and the impact of their personal action/inaction in maintaining and transforming those problems. This critical community-engaged learning pedagogical approach allows students to connect their own lives to the lives of those with whom they work in their experiences (Mitchell 2008, p. 54).

The skills of argument appear predicated on a level of epistemological understanding that requires contemplation, evaluation, and judgment of alternative theories and evidence. These cognitive processes, according to Kuhn, require the metacognitive ability to be reflective about one's own thinking (Hofer and Pintrich 1997, p. 105). Through the use of reflection before, during and after the experience students are able to consider how this experience might reinforce or challenge their emerging professional identity and ways of working. The reflective opportunities introduced throughout the project are designed to build students megacognitive awareness of the practices and strategies they have employed or could employ. The 4Rs model of reflective thinking Carrington and Selva 2010) provides a specific approach to exposing underlying values, feelings and practices. The four stages of this model are reporting, relating, reasoning and reconstructing. Reporting involves students recounting an issue or experience, their initial response and why it is important to their professional practice. Students are then asked to relate the issue/experience to their own skills, professional experience or discipline knowledge. Through reasoning about the issue/incident students consider different perspectives involved, e.g. ethical, social, legal, organisational, and professional. In this way this discipline values which are often taken for granted through their induction and initiation into their profession are exposed and challenged. Finally students are asked to reconstruct their understanding of their experiences and consider how their exposure to different context, ways of working (e.g. PAR and interdisciplinarity) have impacted on them personally and on the ways they might act as professionals in the future.

Challenges and Implications

This interdisciplinary approach to community engaged learning while leading to mutual beneficial outcomes for stakeholders has also brought with it a number of challenges. With students and academics coming from diverse disciplines

their experiences of and preferences for particular pedagogies and assessment approaches vary. While some disciplines naturally embrace creative problem solving, open-ended inquiry and loosely structured project briefs other disciplines are more comfortable with strongly scaffolded learning environments that have clearly defined outcomes. Teams vary in their need for guidance and support from their academic mentors to manage the uncertainty inherent in these problems. As new academics join the Lab it is important that they are also equipped with pedagogical strategies for managing uncertainty.

A key factor to the success of the Lab model was the investment of time and resources in dialogue with stakeholders leading up to the Lab becoming operational. This investment in planning and establishing relationships paid great dividends and has enriched outcomes and the sense of ownership over the project by all stakeholders. The sustainability and longevity of the Lab is dependent on ensuring new academic and community partners to the Lab have an opportunity to build an understanding of and trust in the collaborative pedagogical principles of the Lab.

The institutionalisation and sustainability of community engaged learning is complex and challenging on a range of levels. Appropriate workload models and reward and recognition schemes that value the impact of this work are two significant areas of challenge for academics. Another issue is sustainability for the organisations that chose to partner with the University to continue to be involved as the number of students participating grows. Community engaged learning partnerships with community are typically dependent on the capacity of higher education institutions to provide academic guidance and support to student work, follow up on any issues and maintain communication (Rosing and Hofman 2010, pp. 226, 227). Strategies, such as having students on placement in liaison roles, and a centralised university role that supports and facilitates the engagement between community, academia and students are two approaches that assist in making the projects more efficient for the partners.

A key objective for today's educators is preparing the next generations for meeting challenges of the future. The Lab's approach to community engaged learning embraces active engagement, participatory inquiry based learning, creativity and interdisciplinarity. This learning prepares graduates with skills enabling them to work in, guide and challenge a diverse and complex world. The pedagogical principles emerging from the collaborative design of the Lab are working to assist students meet these challenges. Our hope is that students embrace these collaborative ways of working and integrate them into their own emerging professional practice. As Henry and Breyfoyle (2006, p. 28) state: "When students problem-pose, they can unveil reality and search for more humane ways of living".

Acknowledgments The QUT Community Engaged Learning Lab outcomes are the result of collaboration between community partners, students and academics across the Queensland University of Technology. The project has been supported through funding from a QUT Engagement Innovation Grant and the QUT Learning and Teaching Unit.

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Chapter 11
Managing Competing Demands in the Delivery of Work Integrated Learning: An Institutional Case Study

Heather Smigiel, Ceri Macleod and Helen Stephenson

Abstract University teaching is complicated by competing pressures on academic staff. Imperatives including research, and engagement with community are just two of the myriad pressures that academics balance in careers of full workloads and shifting external demands. This chapter highlights the tensions inherent in the introduction of new priorities, in this case, practice-based learning. It provides a case study of a single institution and offers a perspective on successful implementation that includes consideration of workload, resourcing and a shared vision for pedagogical change.

Keywords Learning · Higher education pedagogy · Practice-based learning · Teaching

Introduction

The structure and modes of teaching and learning in universities have never been under greater scrutiny by staff in these institutions, their senior staff, students, and graduate employers. This scrutiny encompasses a focus on work integrated learning which is viewed by university, students and industry as an important element of university study. At the same time data regarding student attendance, research into the success of conventional teaching strategies, student feedback and criticism from industry point to the need for change in many areas of teaching. These imperatives come at a time when demands on academic staff have never been greater. With more administrative responsibilities, requirements to be research active, engaged with community and up to date with information in their discipline, the time to consider their teaching and work closely with their students in the ways that they have done in the past, is diminishing. More concerning, in relation to practice-based learning, is a finding in a recent study by the Grattan Institute (Norton et al. 2013, p. 33)

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_11

that the next generation of Australian academics showed greater interest in research rather than in teaching. Also in the same report, a study of research students who wanted to pursue an academic career found only 37% thought 'teaching' was a 'very attractive' part of their career choice. In this context there are significant issues that prevent staff being committed to teaching, including supervising and assessing practice-based or work-integrated learning. Interestingly while professional and academic staff members struggle to find a priority for these practically-based activities, senior staff members are promoting the importance of preparing work-ready graduates.

This chapter is written by staff from the Centre for University Teaching at Flinders University who play a key role in the development, design and implementation of practice-based or work integrated learning at a strategic level. Our aim is not just to increase the instance of work integrated learning (WIL), but to promote effective, meaningful delivery across all Schools and Faculties. This includes the provision of strategic, cross-faculty, interdisciplinary support for the management and implementation of effective WIL activities, led primarily by the WIL Program Manager; a position created specifically to support the University's WIL agenda. Many of the perspectives we present and the description of activities made in this chapter come from this strategic viewpoint and thereby represent a centralised perspective rather than a faculty-based point of view. The purpose of this chapter is to examine some of the tensions that exist between those in central roles in the university and staff in faculty roles, and what this means for the development of WIL.

An example of these tensions is apparent in key policy statements such as the Flinders' Strategic Plan (Flinders University 2009b) and the Teaching and Learning Plan (Flinders University 2011), where work integrated learning is described as an academic priority, and a "… tool for maximising student learning opportunities" (Smigiel and Macleod 2010, p. 2). Also, the Vice Chancellor, Professor Michael Barber, has articulated the need to ensure that WIL opportunities are available as an explicit feature of all undergraduate programs. This assurance was made to enable students to develop a truly integrated approach to learning though a combination of academic and work-related activities. While these statements are laudable they do not always transfer to action and resourcing in faculties. Many staff involved in managing and supervising practice-based WIL activities find themselves without workload allocation for managing their programs, while other academic staff are so pressured with demands for research productivity that they are unable to supervise placements or assist students to reflect on the outcomes of placement and connect theory with practice.

In this chapter we describe approaches being utilised by staff in the Centre for University Teaching to overcome some of these tensions and embed good practice in WIL across the University. We provide a background to key activities and major initiatives in measuring the impact of WIL at Flinders, and briefly evaluate their delivery and future implications. We identify the difficulties and problems experienced by faculty-based staff in responding to these initiatives and to WIL in general. This chapter also provides an overview of the University's approach in delivering the Vice Chancellor's aim, in terms of research we have undertaken, initiatives we have developed, and our focus for the future.

Challenges in WIL

The changing demography of today's university students and the increasing calls from Government and industry (Cooper et al. 2010; Patrick et al. 2008) to provide work-ready graduates is challenging. The national and global context of change and competition requires the development of closer ties between university and industry (Australian Collaborative Education Network 2014). We know that employers want knowledgeable graduates with experience, able to link theory and practice from the time they commence employment. We know that traditional higher education students benefit from accessible, quality support programmes (Burge 2012).

Conversely, we also know that WIL courses and topics are more time consuming and resource intensive to teach than traditional courses. A number of reports (Griffith University 2007; Lomax-Smith et al. 2011) identify problems in workload allocation and provision of resources. There is also on-going pressure for academics to be involved in research and teaching and little support for those who want to spend time designing WIL programs or being involved in supervising work integrated learning placements. A further consideration for faculty-based academics is the unique 'teaching and learning approach' that is often required in WIL programs (McLennan and Keating 2008, p. 4). Teaching WIL topics often requires academics to move beyond a teaching role that they are accustomed to. In WIL programs, academic staff are usually required to develop ways of teaching that integrate theory and practice in teaching contexts where there is less emphasis on providing information and more on the 'self-management of learning' (McLennan and Keating 2008, p. 11). An added pressure is the challenge of increasing student diversity, location and modes of WIL delivery, and the changing workplace context.

Given these pressures and competing demands from senior management, staff, students and industry, the Centre for University Teaching faces huge challenges in providing support for the implementation of a strategic, cohesive and meaningful WIL strategy. To address the need to meet the requirements of all stakeholders in a challenging and dynamic environment within a multi-disciplinary contexts the Centre for University Teaching has done much to try and map and review WIL practices, and redevelop existing WIL practices across the University to ensure that they continue to meet the needs of all stakeholders. As new policies and practices have developed, and awareness of WIL, in all its forms, has increased, we have developed a range of measures which aim to continually improve the 'meaningfulness' of WIL, and thereby maintain the momentum of successful WIL delivery at Flinders (Smigiel and Macleod 2010).

Defining WIL at Flinders

Research into WIL at Flinders has been undertaken in different forms, at different points in time. Essentially, this research has fallen into two categories: the identification of what current practices exist, how they function, and problems they

face; and identifying the gaps in WIL provision and how such gaps may be overcome. The overall purpose has been to: determine progress towards our ambition of providing a WIL opportunity for all undergraduates; to identify and regularly re-evaluate our position and perspective in relation to WIL, as awareness of its nature and scope grows significantly across the University; and to identify the problems experienced by university staff in responding to initiatives implemented over time. We recognise the need to constantly interrogate our practice and develop our programs to meet evolving stakeholder demands, whilst at the same time being mindful of the tensions facing the academics we work with. Consequently, a series of cross-discipline audits, reports and interviews have attempted to map WIL activities over time, to determine levels of WIL implementation, identify gaps in delivery, and issues requiring support by the Centre for University Teaching. This research has also provided an opportunity to identify significant and common areas of concern among academic and professional staff involved in WIL, and has therefore represented a 'health check' of sorts, at various points in time.

An audit of the University's then 'experiential, work-based learning' activities was completed in 1998, with a subsequent audit report completed in 1999 (Orrell, Cooper & Jones). This report identified a wide range of educational purposes and value of 'practicum' programs (as they were referred to at the time), and concluded that such programs were "a very significant, yet little recognised, feature of the institution's educational profile" (Orrell et al. 1999, p. 2). The report also clearly acknowledged the value of properly resourced and supported links between the University and external organisations that may, in the past, not have been utilised effectively. A number of 'critical staff issues' were raised as concerns by those interviewed: a lack of workload recognition and career advancement opportunities; a lack of preparatory activities and support mechanisms in the management and implementation of these activities; a reliance on experienced staff committed to the value of these activities in organising them or, conversely, new, inexperienced and low level staff. This led to a significant concern that the issue of risk management was not—at that time—adequately addressed.

In 2007, a further audit and corresponding report of WIL activities at Flinders University was undertaken (Smigiel and Harris 2007). This audit recognised the gathering momentum behind WIL[1] and its role within higher education, and noted a significant increase in placement activity since 1999. The 2007 audit report noted that "from a student enrolment of 15,925 in 2006 the Practicum Audit identified 5604 students enrolled in topics requiring practicum, work experience or work integrated learning placements" (Smigiel and Harris 2007, p. 8), ie more than a third of all students. From a staff perspective, the same report also noted that there were "221 academic staff involved with the coordination, management, supervision and teaching programs in 2006, more than double the number of academic staff involved

[1] WIL data in the 2007 report was collated within the context of the then Department of Education Science and Training (DEST) Administrative Guidelines for providers: student support, which effectively categorised WIL as non-Work Experience in Industry (WEI) topics/units. This provided a clear context, but applied only to external activities, eg placements, field studies etc.

in 1999" (Smigiel and Harris 2007, p. 8), and more than a third of the academic staff employed by Flinders University at that time.

Whilst these figures are impressive, it must be noted at this point that the report did not capture the whole picture in relation to WIL at Flinders. The 2007 report was entitled 'Audit of Work Integrated Learning Programs at Flinders University'(Smigiel and Harris), however, the data it captured related only to external, workplace-based activities, such as placements, field studies, internships. It did not relate to WIL as we know it today, with the inclusion of non-placement, simulated, and/or predominantly on-campus work-related activities. This is by no means detrimental to the validity of the results of the report, but it does reflect the scope and definition of WIL at that time.

The 2007 report (Smigiel and Harris) also identified a series of recommendations, building on the initial recommendations of the 1999 audit, to address some of the concerns that the audit process had identified. The recommendations included the need to define WIL and develop a clear policy in relation to its implementation, to resource WIL management and recognise the workload required to implement WIL effectively and to engage with industry more effectively. The report also identified the need to provide on-going professional development support for staff engaged in WIL as well as developing appropriate software and technical support to streamline and improve WIL preparation and delivery. The following three sections each identify a key undertaking by the Centre for University Teaching directly addressing the Report's recommendations.

Developing a WIL Policy

Three years later, in October 2010, Flinders launched a new WIL Policy, with a stated commitment to review its implementation after one year (Flinders University 2010a, b, c). The WIL policy drew on recognised good practice from across the higher education sector and defined WIL at Flinders. Related Guidelines and Administrative Procedures (Flinders University 2010a, b) explicitly identified design, organisational, supervision and assessment requirements for these WIL activities. The Policy recognised the need to promote good working relationships with host organisations and to develop appropriate administrative procedures, in addition to providing guidance on relevant topic design. The Policy was developed in close consultation with staff, academic and professional, from across the University, including legal officers, workplace health and safety officers and student support staff.

Principles for the design and implementation of effective WIL activities had to be realistic to, as far as possible, facilitate stakeholder buy-in, ownership, and therefore enable sustainable change management. Also imperative was the need to develop a policy that supported flexibility, so that new and existing WIL models in a variety of forms could work within a clear framework. The aim was to produce something that was enabling, yet ensured a level of consistency within a defined framework to

meet clear eligibility criteria and strategic objectives and, ultimately, embed good practice. How to accomplish this was subject to rigorous discussion within the University, culminating in the development of a strategic, multi-discipline working group, comprising key members of the Centre for University Teaching, the broad WIL community at Flinders, and centrally-based policy advisors. The nature and scope of the Flinders WIL community is explored further in the following section.

The WIL Community at Flinders

Even prior to 1998, when WIL was first audited at Flinders, there was a comprehensive, diverse, supportive and multi-disciplinary WIL community. Overall membership of this community has grown significantly as a direct correlation to the level of awareness of and engagement in WIL over recent years. A WIL Forum, developed some years ago for all staff (professional and academic), with an interest in WIL activities has developed and evolved as an opportunity for the Flinders WIL community to discuss common issues, share experience and expertise, initiate and feed into proposals for the management and organisation of WIL activities and their implementation across the University. Forums may focus on specific, topical issues, however, the broad purpose of sharing and discussing issues from a generic, cross-Faculty perspective remains its key strength.

Whilst there is a clear role for generic WIL discussions, there is also a role for targeted, outcome-focussed working groups. From a WIL perspective this has never been more evident than in the development of the WIL Policy, Guidelines and Administrative procedures (Flinders University 2010a, b, c). This particular working group, active between 2009 and 2010 brainstormed, drafted and subsequently championed the Policy and its roll-out across the University. Comprising members from all faculties and led by the Centre for University Teaching, the working group had a significant impact on the way in which WIL is implemented today. At the heart of the group's remit was the need to produce something relevant to all disciplines and forms of WIL, for new and existing practice, that was enabling. Through the direct input of WIL practitioners, who subsequently spearheaded the roll-out of the Policy at School level as WIL 'champions', the working group was able to create a series of documents to meet the needs of all stakeholders and was realistic at implementation. For staff in the Centre for University Teaching, our aim was to develop a policy that met the needs of all stakeholders in a challenging and dynamic environment, within a multi-disciplinary context.

While the WIL community has a role in shaping the WIL agenda at Flinders, it also serves as a vehicle that continually engages with and supports new WIL practitioners and practices. In 2008 the Centre for University Teaching developed a suite of staff development and support opportunities, including a comprehensive 'Managing Work Integrated Learning' series of workshops, held several times a year. These workshops provide new and relevant information for existing staff, but

are compulsory for all new academic and professional staff involved in leading and organising WIL activities. This compulsory professional development course is stipulated within appointment letters, and reviewed prior to tenure. The workshops introduce: the requirements of the University's WIL Policy; case studies of good practice; phases of WIL and assessment; staff and student advisory and preparatory programs; and how to deal with common issues such as marginally performing students in a WIL context. The workshops are developed and delivered by the Centre for University Teaching, with input from WIL experts across the University. The broad WIL community across the university, including faculty-based academics and professional staff responsible for contractual arrangements, workplace safety and equity are also actively engaged in contributing to the delivery of these workshops, particularly via case studies of 'WIL in Practice'. Workshop evaluation forms evidence that engaging with fellow practitioners regarding their experience in WIL delivery provides a rich and collaborative learning environment for those attending the workshops.

In addition to forums and workshops, the Centre for University Teaching also facilitates a variety of WIL working groups and information networks. These groups have either evolved naturally, or have been created to meet a specific need. The WIL Policy group was one example of this, whilst other groups have existed as a means of facilitating proactive discussions on a particular topic, for example:

- The Pre-Place Working Group brainstormed ideas for the program and provided topic specific input as required (more on Pre-Place later in the chapter). This group had a specific agenda, with members approached by the Centre for University Teaching for their expertise.
- The 'WIL Working Group', comprising volunteers from amongst the most active WIL practitioners worked together to consider issues impacting on the successful implementation of WIL, but from a very strategic, proactive perspective. Once again, members of this group were hand-selected by the Centre for University Teaching. Whilst the agenda for this group was not so clearly defined it was a very positive group committed to promoting change.

In addition to working in partnership with the broader WIL community within the University, the Centre for University Teaching is also actively engaged with a number of external networks at local, national and international levels. Flinders University actively works with the Australian Collaborative Education Network (ACEN) and the Innovative Research University (IRU) network. Both provide an opportunity for Flinders to participate in a collaborative environment from a WIL perspective, and beyond, in terms of research and partnerships, maximising efficiencies (for example in the development of collaborative promotional material) and sharing and building upon examples of good practice. Internationally, we work with the World Association of Collaborative Education (WACE), whilst at a local level, the Centre for University Teaching partners the business community via our Chamber of Commerce equivalent. Combined, these mutually beneficial partnerships provide opportunities to learn from and contribute to the development of WIL.

Pre-Place: On-Line Learning Modules

Designing Pre-Place as a multi-disciplinary online teaching resource was a strategic decision made by the Centre for University Teaching in response to the reviews described above, and the needs expressed by staff for assistance with preparation programs for students about to undertake placements. The design of Pre-Place relied heavily on input from a University-wide working group, led by the Centre for University Teaching. Members of the group, drawn from all four faculties and the University's support services, determined that the University's WIL Policy and Administrative Procedures (Flinders University 2010a, c) would provide the framework for the program's development.

Pre-Place conveys University-mandated and additional significant information to students, including components of the University's Administrative Procedures for Student Work-Integrated Learning Placements (Flinders University 2010a). Information is conveyed through text and videos, with students asked to consider the material provided and identify appropriate lines of action in response to related case study scenarios.

The Pre-Place Working Group acknowledged that University disciplines, and indeed professions, have their own cultures, however, many of the issues presented by staff working directly with WIL placements were applicable beyond the discipline in which they were identified and occurring. These common issues are presented in scenario-based tasks. Each scenario task presents a real situation identified by staff members directly engaged with supervising or supporting students undertaking WIL placements in the workplace. Further, the scenarios, de-identified and embedded within Pre-Place, were purposefully designed to endorse the diversity of students' understanding, experiences and contexts and to encourage students to draw on these understandings and experiences when responding to the tasks. The scenarios explore understanding of the information being presented, the options available to resolve situations, and potential consequences resulting from the student's selected option.

While Pre-Place is implemented in all four University faculties and student survey responses are positive, the Centre for University Teaching remains engaged in conversations with staff to ensure Pre-Place's continued use and further development. Immediate future directions for Pre-Place include refreshing its appearance, the addition of specific discipline and profession information and tasks, and developing a certificate of completion that is unique for each student. The inclusion of an online discussion tool enabling peers, and staff, to provide support for students prior to, on, and after placement is also being considered.

As Pre-Place continues to be further developed, the Centre for University Teaching is developing an online resource for WIL Supervisors. The scope of these staff roles varies depending on the size of the school and discipline, the student cohort, and the history of WIL placements within that particular discipline and school. However, all WIL placements regardless of size have commonalities such as locating and contracting host organisations, course coordination, curriculum design and implementation. Additional requirements include; host organisation supervision;

placement coordination; formative and evaluative assessment and reporting; risk analysis and management; and responding to related enquiries. These common features provide the foundation for a multi-disciplinary online professional development resource accessible to all staff, including adjunct.

It is common practice, particularly in disciplines with established WIL programs, to place students in organisations under the guidance of university supervisors employed on a casual basis. Courses utilising casual staff as WIL placement supervisors need to manage the quality of delegated responsibility. Casual staff responsibilities may include student assessment, managing and maintaining relationships with host organisations and students on behalf of the school, discipline and University. The Centre for University Teaching's new online resource, Supervising WIL, is for casual staff engaged in WIL, to provide professional development opportunities. It seeks to extend the staff member's relationship beyond the discipline or school in which they are employed, to include the whole University. Material in this resource includes: key University policies and procedures; a number of educational theories underpinning WIL placement learning experiences; awareness of University support services for staff and students; reflective practices; and assessment techniques.

Engagement in WIL placements is a time and energy consuming labour of love for many staff which needs to be acknowledged and rewarded. The provision of resources such as Pre-Place and Supervising WIL, that are online and initially cross-disciplinary, has been a proactive way for the Centre for University Teaching to collaborate with and support staff engaged in WIL. At the same time the Centre for University Teaching continues to fulfil an institutional requirement to convey and implement University policies and practices.

Pre-Place, Supervising WIL and the University's WIL Policy, Administrative Procedures and Guidelines (Flinders University 2010a, b, c) are initiatives resulting from careful consideration and broad consultation, but have they had a positive impact within the University? Our continual consultation with the WIL community at Flinders provides evidence that these initiatives have alleviated some issues, however, competing demands on our faculty-based colleagues remain. Where then, does the problem lie? What and where are the remaining gaps?

Identifying the Gaps

In 2010 Flinders University undertook a whole of university curriculum review (Flinders University 2009a). As part of this process work integrated learning courses were reviewed to ascertain the growth of WIL across the institution and to assess staff understanding of its definition and application. While this process confirmed a growing number of courses incorporating what was defined as work integrated learning in accordance with the WIL Policy (Flinders University 2010c), there were differing understandings of what the term meant and what activities might be described under this term. Where WIL was not a professional requirement there were more likely to be gaps in the provision of WIL.

A subsequent analysis of student enrolments in placement topics, undertaken in 2013, identified a significant increase in student WIL placement activity, particularly after 2010. This increase could be attributable to a number of factors: increased student enrolments; the development and implementation of WIL Policy and Procedures; the availability of support and information networks, forums and professional development programs; and the ongoing promotion of WIL as a strategic educational priority.

Now, in 2014, there is clear evidence that the relative number of WIL activities in courses is increasing over time, particularly in the form of placements. There is also evidence to suggest that the management of WIL activities, albeit mostly in the form of placements, is also improving, seemingly as a result of improvements to strategic guidance and support mechanisms. However, anecdotal evidence obtained from the WIL community points to there still being a number of concerns amongst WIL practitioners at the University, particularly in relation to resourcing and workload recognition, risk management and limitations to placement availability, particularly outside the professions. It is also clear that there is still some uncertainty or lack of clarity on the definition of WIL beyond just placement activities, and a corresponding lack of relevant non-placement WIL being identified. Of more concern is the potential for activities falling outside the definition of WIL being categorised as WIL. This is particularly relevant to non-placement 'WIL' activities. Conversely, there is also the potential for activities that could legitimately be regarded as non-placement WIL not being identified accordingly. In summary, evidence both actual and anecdotal suggests that whilst progress is being made toward the University's ambition of providing a WIL opportunity for all undergraduates, areas of concern remain among staff and are potentially becoming exacerbated by the upward trend in the instance of WIL.

Prior to 2013 the reviews into WIL implementation relied upon information collected from academics involved in teaching WIL programs. Whilst a clearer picture of WIL implementation within the University emerged through these reviews, there remained a relative lack of clarity behind the level of commitment to WIL from leaders in the various schools. As such, some of the more strategic questions remained unanswered: what is the impact of WIL on our students? Why are WIL activities more effective with greater stakeholder buy-in from some disciplines than others?

In an attempt to answer some of these questions, the Centre for University Teaching conducted individual, semi-structured interviews with all Deans of Schools across the University in 2013. The interviews were conducted as mutually-beneficial opportunities to identify, promote and support examples of best practice. The positioning and remit of the Centre for University Teaching, to support the enhancement of teaching within the University, enabled activities being undertaken across the University to be recorded, innovations recognised, issues and the level of their impact and reach to be identified, and the opportunity to share information and meet people enacted. Data from these interviews was then cross-referenced with information from previous audits and institutional initiatives. In general, Deans of School said that they appreciated and understood the potential of WIL in preparing

work-ready graduates and they also acknowledged the support and resources provided by the Centre for University Teaching. However, in one school WIL was viewed as inappropriate to the discipline and therefore did not feature in academic offerings. In another School WIL was undertaken, but viewed as an unnecessary addition to academic theory. In most cases, the passion and commitment of individuals underpinned the success of WIL programs whether it was supported by Deans of School or not. While finding placements for students is becoming increasingly difficult for many disciplines, alternatives are not being actively sought and there appears to be a lack of appreciation of the possibilities for non-placement WIL. University Policy identifies resourcing WIL as a School-level responsibility whilst Schools often hold the view that resourcing should come from Central funds. Negativity towards the 'value' of WIL and its strategic significance is most pronounced where there is a perceived inadequacy of corresponding resources.

Conclusion

Over the last few years, WIL implementation at Flinders University has fallen within the classic 'Plan-Do-Check-Act' Deming cycle approach to continual improvement and control (Deming 1950). To an extent, this is working. More students are undertaking a WIL activity. Different approaches to WIL are being developed and rolled-out across the University. Practices are underpinned by processes that are enabling, with support mechanisms that are innovative, user-led and flexible. But is this enough? Workload tensions remain and resourcing continues to be a problem. Risk management is also an area of increasing concern. At the same time however, as outlined at the beginning of this chapter, the expectation for students to graduate work-ready has never been greater.

In considering the success, or otherwise, of the impact of the Centre for University Teaching on the practice of work integrated learning over the last eight years we need to turn to the literature of educational change. Michael Fullan has been a prolific writer and thinker in this area and in his latest book, The New Meaning of Educational Change (2007) presents some key questions for consideration:

1. Does the change we wish to implement address an unmet need?
2. Is it a priority for those involved in the potential change?
3. Are there adequate resources committed to support implementation?

Looking back on the initiatives we have put in place we think it is clear where problems may exist. There is no doubt that we have made every effort to put in place initiatives that will assist staff in the faculties to achieve good practice in WIL. All these changes have been the subject of broad consultation and as part of our review processes we have consulted with professional and academic staff, Deans of School and staff in other central units. However the weakness could lie with the final two questions that Fullan raises and we think these are important considerations for all staff in central units who are trying to effect change. First, is WIL a priority for all

staff in all schools? Clearly, the answer is no not for *all* schools and information from the Grattan Report (Norton et al. 2013) and other recent studies confirms that for many staff, research is a major focus and there is little interest or time in teaching or specifically in work integrated learning. The few staff who have a major commitment to WIL and to the preparation of work-ready graduates do not feel supported or valued and often are asked to coordinate, supervise and assess students doing WIL on top of their normal workload.

A common theme in existing literature is that university staff workload in WIL is rarely valued, recognised or rewarded at school, faculty of institutional level and participation in WIL courses is often seen as a barrier to promotion (McCurdy and Zegwaard 2009; Orrell et al. 1999; Smigiel and Harris 2007). This perception serves to discourage involvement and deep commitment to WIL by a large number of staff.

In addition, Fullan's (2007) third question about resources available to support implementation is an important consideration. We are lucky at Flinders to have the continuing appointment of a WIL Program Manager. This has proven to be a critical factor in all we have been able to achieve. However, there is little money available in faculties and schools to support WIL or even to provide workload recognition for staff. At an institutional level there has been no additional funding provided to support the Centre for University Teaching initiatives and developments since 2007. Without the WIL Program Manager and some additional resources provided through the Centre for University Teaching budget there is little that we could have achieved.

Fullan (2007), also advises that we should not assume that there is a 'silver bullet', that we consider that change involves a re-culturing, and that we should use collaboration and informed decision making to develop a necessary shared vision. We have addressed his first piece of advice, as we have tried multiple approaches and have offered a range a different activities and resources to support staff, with their active engagement in the development and roll-out of these initiatives. However, the issue of using methods to develop a shared vision has proved difficult. In an effort to get people together to discuss WIL we have offered workshops, forums, working parties, individual consultations, and communities of practice (with limited funding). We have had success with groups of staff but there is still room for wider participation. The major barrier of a lack of time for involvement in WIL is related to the discussion in the paragraph above. Creating a shared vision requires breaking out of silos/discipline boundaries and developing common understandings and objectives. Re-culturing within discipline boundaries requires significant commitment and time. Re-culturing university-wide requires sustained executive support within faculties, schools and centrally. Currently, WIL does not have sufficient priority to demand this level of energy or effort from these executives.

To ensure continuing quality work integrated learning experiences across Flinders University we need to make sure that the contribution of university staff members to WIL is recognised and supported, as developing, implementing and managing WIL activities requires a significant amount of time and personal commitment by relevant staff across the University. This is where our future focus lies. It is essential that senior staff at the University recognise the importance of this

commitment through the workload allocations of both professional and academic staff. This is an issue that has been raised consistently by WIL practitioners across the University, and needs to be addressed if the WIL agenda is to be delivered effectively. Doing so may contribute to an enhanced view of teaching as an attractive and viable career choice amongst academics.

Our institutional research indicates varied practice and understanding of WIL across the University. We believe that centrally, the Centre for University Teaching needs to provide pertinent information, resources and support to encourage staff to develop 'meaningful' work integrated learning experience at preparation, implementation and reflection stages. However, there is much to reflect on in regards to exactly what is possible for a central unit to achieve in the current climate, particularly with a competing culture prevalent in most faculties, tending to draw academic staff away from involvement in work integrated learning. The groups that most significantly call for relevant and well-designed work integrated learning programs are the students and our business and industry colleagues. The students know that they need to leave the University well prepared for work and business leaders have been demanding for years that we graduate students who are ready for work.

The Centre for University Teaching has achieved a great deal in recent years in embedding WIL into the strategic agenda at Flinders University. In order to make further progress we also need to work with strategic partners and students. We can be confident that the majority of Flinders undergraduate students have access to WIL of some form, and that such activities are underpinned by robust policies and processes. These are significant achievements; but we need to do more. As part of the cycle of continual improvement, we need to focus on and advocate for greater resources and staff recognition. We need to encourage buy-in to WIL at executive management levels within schools, utilising manageable, cost-effective and innovate examples of good practice, to help ensure that realistic, output-focused WIL becomes a greater priority, across all disciplines. Most significantly we need to work more closely with students to assess and include their needs and perceptions, and to assist relevant staff to build strong working partnerships with business and industry.

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Chapter 12
Conclusions: Towards an Understanding of Education as a Social Practice

Silvia Gherardi

Abstract The chapters in this book have focused on what is apparently a single issue, and which is denoted by the expression 'practice-based learning'. However, consideration of this theme through many different lenses and from diverse points of view has had the effect of constructing an approach whereby the topic has become broader and more nuanced. What has been used is a kind of magnifying glass that places the knowledge object within a broader framework, freeing it from the strictures of falsely circumscribed definitions.

Keywords Practice-based learning · Situated knowledge · Texture of practices · Knowing-in-practice · Translation

The chapters in this book have focused on what is apparently a single issue, and which is denoted by the expression 'practice-based learning'. However, consideration of this theme through many different lenses and from diverse points of view has had the effect of constructing an approach whereby the topic has become broader and more nuanced. What has been used is a kind of magnifying glass that places the knowledge object within a broader framework, freeing it from the strictures of falsely circumscribed definitions.

Practice-based learning has been constructed as a new contemporary orthodoxy. The expression is used in a multitude of contexts on the assumption that everyone knows its meaning and that everyone uses it in the same way. This is the process that turns a concept into a platitude: that is, it drains of sense a term proposed to communicate a meaning. As a commonsense expression, it is used to refer to an issue that can be defined as the social desirability that neo-professionals be 'ready-made' for the labor market and for the organizations that will hire them. Just as Marcel Duchamp's ready-mades were objects of everyday use that became art objects when they were de-contextualized from one social world and recontextualized in another, so the new professionals acquire a different status when they are uprooted from the world of education and transported to the world of work. Is this a process of enhancement, therefore?

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M. Kennedy et al. (eds.), *Practice-based Learning in Higher Education,*
Professional and Practice-based Learning 10, DOI 10.1007/978-94-017-9502-9_12

The theme of integration between education and work has a long history behind it, and profound historical transformations have affected the way in which this relationship is established and shaped in our culture. Hence, from this point of view, we may say that the theme is not a new one; or that if there is anything new, it is the fact that in the contemporary debate there is a tendency to underestimate the historical factors that have produced the current terms of the debate.

What is new is the increasing pressure on universities and industry to provide practice-based learning specifically (but not only) in the form of work experience placements and internships. Both students and the professional accrediting bodies are seeking to ensure that these practice-based experiences are embedded and assured as part of university professional programs. What makes such experiences desirable is mainly driven by the ideology of economic rationalism, in which 'education' is considered as 'investment' and 'university' means 'business' (as we can read in the advertisements of some well-known educational institutions). Even if we were to accept this formulation of the problem within a purely economic logic, we would also have to consider how the knowledge that forms a profession has grown increasingly composite, complex, specific, specialized, and constantly changing. The life-cycle of knowledge has grown shorter, and the processes and actors that produce knowledge have become ever more diverse and dynamic.

Professional knowledge and professional learning are undergoing profound changes due to two phenomena that Jensen and Lahn (2005) term individualization and epistemification. Processes of individualisation challenge the embeddedness of individuals in professional communities. Professionals, rather than working in stable communities and relying on existing norms and values, are thus increasingly required actively to form and participate in knowledge networks outside their immediate work. Processes of epistemification concern the fact that one of the key signifiers of the knowledge society is the structure of its knowledge, whose axes shift from local and personal to abstract and symbolic. For professionals whose social claims rest on their capacity to be at the forefront of knowledge, the ability to access and make use of abstract modes of knowledge has become crucial, in that this form of knowledge has a visionary quality which enables us to break with existing experience and realize possibilities that have not yet been actualized.

What, therefore, is the value (in all the senses of the term) of practice-based learning within this cultural context? What is meant by 'practice-based learning'? Is it perhaps a new label for school/work alternation or work integrated learning? Historically, the liberal professions have always recognized the importance of the practicum, and enhancement of the social value of this form of apprenticeship has been based on recognition that the practicum furnishes a form of knowledge different from that provided by formal education. On the other hand, it would be pointless to learn in practice what could be learned with less expenditure of time and energy in an educational context where the necessary knowledge has been encoded and decontextualized. Formal teaching practices have this historical origin, which recognizes the difference between the kinds of knowledge transmitted by the two contexts. Paradoxically, this element, which borders on common sense, seems to have been kept quiet to the point that the question of what is learned in practice that cannot be learned in traditional training contexts becomes difficult to answer. Yet if

one does not acknowledge that the two types of knowledge are different, and that the differences have not been theoretically specified, so that there is no awareness of the different productivities of the two fields of educational practices, it is unlikely that a practice-based pedagogy can be produced.

The contemporary debate therefore concerns itself with the problem of enhancing students' employability upon graduation, and it indicates practice-based experiences as the solution. The practice-based experiences are defined as those experiences in the circumstances of practice and usually outside university settings. Nevertheless such definitions are problematic, and they reveal the culture that is taken-for granted in their representation.

In fact, the circumstances of practice are usually outside the university; nevertheless they are still comprised in the context of 'education' and not in the context of 'work'. This means that students' experiences are conducted and debriefed within the community of practitioners-as-students and they conform to the expectations and evaluations of the field of study. The practitioners who allow students to take part in their working practices grant them conditional entry into their community as students-on-work-experience, but the students are not legitimate peripheral participants (to use Lave and Wenger's expression) since they are not going to become members of that community of practice. The knowledge transferred to them and the expectations that the community places in their performances or in their learning on the job are limited. Accordingly, also their commitment to teaching is limited. In other words, we can ask: whose practice are we envisaging? The community of practice of the students is still that of educational practice, while the professionals are part of a community of practitioners whose working practices are situated within an organizational setting.

Here there is an ambiguity in the use of the term 'practice' that reveals a tacit assumption. The taken-for-granted idea is that practice is synonymous with the workplace in one case, and synonymous with occupation or profession in the other. In both cases, practice is conceived in static terms as a site, a container of something else. What is silenced is the situated nature of knowledge and its organizational dimension. Can a profession be learned once and for all, and independently from the workplace where it will be practiced? The professional knowledge that is embedded in a workplace is contextual; it is anchored in the sociomaterial relations of the workplace in a specific organization. This means that also when an expert professional changes organization, or workplace in the same organization (consider, for example, a different ward at the same hospital), s/he must learn the situated way of practicing and the 'tricks of the trade' used in the new community. A more dynamic and process-oriented concept of practice (i.e. as practicing) may be more productive. Moreover, when 'practice' is used as a synonym for 'profession', the tacit assumption behind the use of the expression 'practice-based learning' is that 'the profession' remains the same in different contexts of practice and in different organizations. This ambiguity become important when we must answer the question: what is learnt in the context of situated working practices, and how can teachers provide significant learning opportunities generating significant personal experiences? Also to be noted is that teachers may provide opportunities for acquiring experience, but that experience is personal and unique: that is, it is a personal way of knowing, as Polanyi (1962) would put it.

Moreover, a equivalence is often made between theory—and universities are seen as places of conceptual knowledge—and practice as the locus of procedural knowledge. This assumption may give rise to conflicts or to an elitist conception of the dominance of one form of knowledge over the other. While the differences between the two forms of knowledge are widely discussed by Kennedy's article in this volume, what is somewhat silenced is the fact that in both cases knowledge is seen as an object rather than an activity. In the passage from knowledge to knowing, we can focus on how becoming a professional (and teaching for it) is related to learning how to produce knowledge within a professional field and how a professional field validates its epistemic practices.

The idea of designing a professional curriculum may gain a fresher look once the idea of practice-based learning becomes more complex and the goal of enhancing students' employability upon graduation is somehow de-coupled from it as the only solution. This theme has been dealt with by several articles in the book, and I shall not resume it here. Instead I shall reconsider the various reasons put forward in Billet's article (in this volume) as to why practice-based learning is difficult, and why those teaching in higher education may need to develop a more informed scholarly practice in utilizing and integrating practice-based experiences within their programs. Six reasons are listed: educational science and informed education practice are still in their relative infancy; the understanding and accounts of the knowledge to be learnt through educational programs and the processes through which this knowledge is learnt are still the subject of much debate; the means by which the knowledge required for occupations is to be developed (i.e. learnt) have also changed; many of the concepts that commonly inform educational practice are underdeveloped; there still remains considerable uncertainty about what kinds of experiences are generative of what kinds of knowledge; and last the focus of most efforts within educational science are not well aligned with informing about how younger or older adults learn in and across settings outside educational institutions. When we consider all these explanations together, we may say that teaching is an ambiguous technology and it takes place in uncertain circumstances. Professional practices of educating cannot be properly understood unless we are willing to conceive practical knowledge differently. It is for this reason that I shall now raise some questions about the relation between knowledge and action in practice-based learning after 'the practice turn'. I propose to look at education as a social practice and see how it is the effect of a plurality of rationalities and takes place within a texture of practices.

Education as a Social Practice

In order to develop a theoretical framework for considering education as a social practice (and it should be self-evident that education is a value in our society) and for interpreting the new orthodoxy behind the term 'practice-based learning', it is necessary to outline how the so-called 'practice turn' in social sciences has contributed to a different understanding of knowledge and knowing in practice.

Study of the practical organization of knowledge, in the form of methods of talking, reasoning and acting, and the association of human and non-human elements, is one of the most important directions taken by empirical studies informed by the practice turn in sociology, anthropology and ethnomethodology, and it focuses its analysis on the concept of 'situatedness'. Rather than asking what kinds of cognitive processes and conceptual structures are involved, researchers ask what kinds of social engagement and material setting provide the proper context for knowing, working, learning and innovating (Brown and Duguid, 1991; 2001). For example, Jean Lave and situated learning theory put forward a theory of knowledge acquisition in which 'knowing is inherent in the growth and transformation of identities and it is located in relations among practitioners, their practice, the artefacts of that practice, and the social and political economy of communities of practice' (Lave and Wenger 1991, p. 122). The premise is that work activities and workspaces are mutually constituted, in ways that are structured and available for detailed understanding (Suchman 1996). This assumption prompts the question: is it possible to observe knowledge as it unfolds and describe it empirically without resorting to concepts such as the intentionality of actors, with their mental and/or linguistic representations, and without having to rely on what actors say that they think? In other words, can practical knowledge be described as a situated activity, and as an activity of joint and collaborative production between humans and non-humans, without having to attribute priority to the former, and without assuming that knowledge precedes action?

The contribution of practice-based studies to answering these questions is that not only is it possible, it is also useful to describe knowledge as a practical accomplishment which does not require investigation of what goes on in people's minds and of what they say that they think. That is to say, thinking is a practical, empirically studiable activity, and studying it may have applied uses which aid understanding and intervention in work practices and the technologies supporting them.

At the theoretical level, the entry of the concept of knowing-in-practice into the literature on practices has helped displace the mind (meanings, values or truth) as the central phenomenon in human life and to prioritize practices over individual subjects. Indeed, the concept of practice, and the literature on working practices, has recently acquired new vigour, thanks to the title of the book by Schatzki et al. (2001), *The Practice Turn in Contemporary Theory*, which baptizes yet another 'turn' after the cultural, linguistic and narrative ones. The return to the study of practice has common goals that, according to Schatzki (2001, pp. 2–14) can be summarized as follows: to go beyond problematic dualisms (action/structure, human/non-human, mind/body), to see reason not as an innate mental faculty, but as a practice phenomenon, to question individual actions and their status as building blocks of the social, against idealism.

The practice-turn directs attention to practices defined as 'ways of doing things together', and therefore to the social processes that support practices ethically, aesthetically and emotionally. For example, Rouse (2002, p. 190) writes: 'actors share a practice if their actions are appropriately regarded as answerable to norms of correct or incorrect practice'. This signifies, according to my interpretation of Rouse's definition, that, within every community of practitioners, discussing and

disputing practice, developing different cultures of practice yet identifying with a shared practice, and making practice into terrain legitimately contestable by its practitioners, are dynamics that socially sustain that practice. These dynamics construct the conditions in which the practice is reproduced. They can be conceived as the everyday work of practice reproduction, and as the dynamic work which adapts the practice to changed circumstances, so that it is once again performed "for another first time" (Garfinkel 1967, p. 9).

We may therefore speak of the 'practical knowledge of a practice' to refer to the reproduction of practices within a community of practitioners. For example, when one speaks of 'medical practice', the intention is to denote a body of knowledge and competences over which the community of doctors has jurisdiction and which is reproduced through institutional mechanisms like a dedicated educational system, through control over access to the profession and its exercise, and through an array of professional practices situated in specific organizations, forms of work, and medical technologies. Duguid (2005, p. 113) accordingly talks of a *network of practice* to denote "the collective of all practitioners of a particular practice", while reserving the term *community of practice* for a specific community 'local' in the sense that it is held together by practices routinely reproduced within hospital X or Y. Finally, we may use the term *knowing-in-practice* to denote the situated activity of the community of medical and non-medical professionals which, through mediation with a material and discursive world, performs a particular practice like a medical examination, a ward round in a hospital or a cardiological teleconsultation. There is a twofold nature of the analysis of practice—simultaneously minutely situated, described in the smallest detail, and woven with a texture of other practices (Gherardi 2011). When we consider education as a social practice, we may start from the acknowledgment that it is an institution in that it is infused with value and at the same time it is 'done' historically and culturally within a texture of situated practices where different actors, rationalities and ways of doing things meet.

We may say that the formulation 'practice-based learning' as a contemporary orthodoxy is the discursive effect (intentional and non-intentional) produced within a texture of practices where the following actors perform their respective situated practices which are informed by specific rationalities and expressed in different discourses (exhibit 1). These groups of actors are:

- The regulatory bodies, such as the state and its agencies that, through the imposition of standards and certifications of competencies, exert a regulatory power aimed at the legitimation and standardization of professional knowledge;
- The institutions and organizations that generate knowledge and transmit it to the practitioner-in-becoming, such as universities or research institutes that mobilize scientific legitimation for professional knowledge;
- The professional associations that exert control over exercise of the profession and have a representative mandate;
- The organizations—public, private or non-profit—that employ the professionals and mobilize an organizational control on the way that professional competencies are performed.

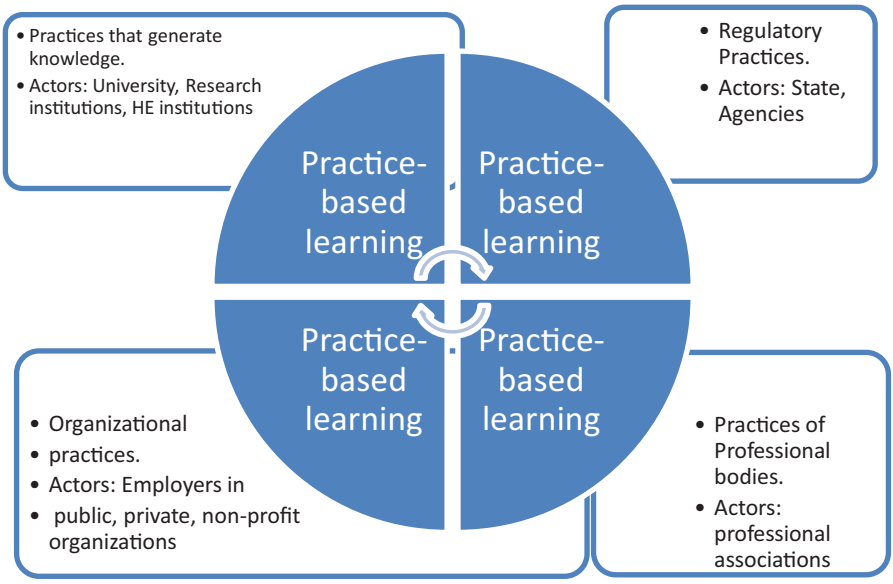

Fig. 12.1 The texture of educational practices

Each group of actors has jurisdiction over different domains of professional knowledge and exercises it in their respective practices and according to a regulatory, educational, representative, and organizational logic. In so doing, their intertwined practices produce 'education' as a socially constructed epistemic object and perform it as a social practice.[1] In Knorr Cetina's (2001, p. 182) conception of epistemic objects, they are characterised by a 'lack of completeness of being', as knowledge 'always in the making' and the texture of practices may be conceived as the symbolic space in which the negotiation of meanings and the influence of one practice over the others is exerted (Fig. 12.1).

The label 'practice-based learning' can therefore be read as a discursive artefact produced in the encounter of different logics of practice within the texture of practices and the cultures of practice that different groups of actors bring with them. As a discursive artefact, 'practice-based learning' is the translation (in Latour's sense) of a regulatory discourse looking for standardization that is mangled with a discourse sustaining the autonomy of professional knowledge, one that aims at producing new knowledge, and one that expresses the desire to control the knowledge

[1] The experiment of the QUT Community Engaged Learning Lab, described by Smith, Shaw and Tredinnick (this volume) can be seen as a texture of practices formed in the collaboration among community partners, students and academics at the Queensland University of Technology.

applied. Therefore it is the effect of a metaphorical conversation in which cooperative and conflictual moves have been made and will continue to be made. As Latour (1999) pointed out, translation has both a geometric and a semiotic meaning. Translation is both the movement of an entity in space and time and its translation from one context to another—as in translating from one language to another—with the necessary transformation of meaning that this always implies. In the article by Grealish (in this volume) we find an example of how the use of standards as a regulatory technology requires a great deal of negotiating work, translation, observation, moderation, re-translation, and of how this work is rendered invisible in the final reports on competence produced for regulatory authorities. In Grealish's example, the professional standards have legitimated the knowledge required to ***do*** nursing (or any other professional object).

Treating education as a social practice entails conceiving it as the effect of a texture of practices where different logics and different cultures meet. From their encounter an epistemic object (education) takes shape in time and space. This object is in a continuous state of translation, not only because it acquires situated meanings according to the practice in which it is embedded, but also because the translation process is movement and energy. Any translation is the result of the active work of heterogeneous "carriers" (intermediaries or *Träger*) that in the process find a place or are locked into place. When an actor places an intermediary in circulation (like the artifact 'practice-based learning'), it seeks to define, from its own point of view, the number of other actors, their place in the world, their characteristics, the nature of their relations, and their position vis-à-vis the actor attempting the translation. Assuming a practice-based approach to education means investigating and describing the strategies, tricks, maneuvers, actions and enterprises with which individual or collective actors undertake translations in order to consolidate the network that supports them and make it as permanent as possible (often in alliance with objects and artefacts that grant durability to it). Humans and non-human have agency in that texture of educational practices, not because 'agency' is a personal attribute, but because it emerges from their relationships. Therefore when we consider how a novice in a profession is inducted into work, we see that s/he is under the pressure of different socialization agencies—the university, the state, the organization, the professional association—that as they confront each other within the texture of educational practices, willingly or unwillingly collaborate in producing practice-based experiences throughout the working life of the professional. Also the ideas that practitioners-in-becoming, in their work-integrated learning, develop critical thinking and critical moral agency, and that ethical practice emerges through a negotiated position between the individual and collective, should be enlarged to consider a wider texture of practices. The negotiated position of professionals is attained in relation to organizations, professional bodies, producers of knowledge and the state, and the meaning of ethical working practices is constructed in situated and globalized encounters.

What the title of the book suggests by using the expression 'jostling of cultures' is, in my understanding, the process by which different actors immersed in the texture of educational practices adapt to each other in what I have called a process of

'translation'. Just as the jostling of umbrellas in a crowded street and under heavy rain is made possible by a cooperative and competitive social activity, so practice-based learning is made possible by collective, knowledgeable activities of translation of its meaning into practice.

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