

Chapter 2

Professional Work in Contemporary Contexts

Some of the things about which we are writing in this book will appear unfamiliar and strange to many people who are involved in the practicalities of professional education. This chapter is intended to create bridges between some of the main ideas in recent writing about professional work and the central concerns of this book. The chapter draws on literature about the professions, professional work and professional education and emphasises the growing importance, and changing nature, of knowledgeable action in professional work settings.¹ Section 2.1 introduces some key themes from the literature on professions and professional work, drawing on a number of classic accounts of professionalism. Section 2.2 sketches a few of the main challenges of contemporary professional workplaces and activities. These challenges include the need for more professional workers to be able to participate in innovation: developing new areas of professional knowledge and working practices, to cope with a dynamic external environment, for example. Challenges also emerge from the need to participate in inter-professional work and in work that more deliberately shares responsibilities with lay people (clients, customers, etc.). Section 2.2 uses these ideas about the intensifying demands placed on professional workers and helps tighten the focus further onto the qualities of knowledge work in the professions. Section 2.3 provides a brief overview of principal themes in writing about preparation for the professions, and Sect. 2.4 surveys a number of contemporary approaches to professional education, connecting some of their salient features to our key themes of knowledgeable action and actionable knowledge.

¹ It is important to note that many jobs that are not normally classified as ‘professional’ involve substantial amounts of knowledge work, including the creation of new knowledge. The core ideas in this book are relevant to knowledge work in general; we do not see them as restricted to phenomena that are unique to professional workplaces (Gorman & Sandefur, 2011). We speak of ‘professional education’ in quite a pragmatic way – what western universities currently deem to be professional education provides a space within which our empirical work is situated and also provides us with a sense of audience for this book.

A wide range of commentators on the nature of contemporary professional work, and on programs of preparation for the professions, are in agreement about core distinguishing features and issues, though their language and theoretical perspectives may vary. What may once have been relatively stable areas of occupational practice are no longer so. Information, knowledge, networks, mobility and other dynamic processes that characterise contemporary society are accompanied by the ‘decline of routine action’ (Archer, 2007). What were once seen as integral parts of a job are being outsourced to skilled workers in cheaper countries or are completely or partially automated with the use of IT-based systems. Entirely new jobs and even professions emerge and older ones dwindle. The role of professional shifts from fount of authority to sense-maker, from ‘legislator’ to ‘interpreter’ (Archer, 2007; Bauman, 1987; Dall’Alba, 2009; Ekbja & Nardi, 2014; Guile, 2014; Nerland, 2012). As we will argue, the ability to thrive in such a rapidly changing world needs much more than a disposition for lifelong learning. It needs a deep understanding of how knowledge works, the capacity to participate in the creation of actionable knowledge and a sense of how to reconfigure the world in order to see what matters more clearly and enable oneself, and others, to act more knowledgeably.

2.1 Professions and Professional Work

It is not easy to pin down the meanings of the terms ‘profession’, ‘professional’ and ‘professional knowledge’. The core term – profession – has denoted different occupations at different times and in different places. Its interpretation is coloured by its association with medicine and law – fields often seen, in the literature and in higher education, as the archetypal professions. In recent years, in Western countries, other occupations have been added to the list: engineer, architect and scientist, for example. Others have pushed to join the club. Some succeed. Some are consoled with titles like ‘para-profession’ or ‘minor profession’. Moreover, the very idea of profession has to be seen as historically, spatially and linguistically located (Sciulli, 2005). If one traces the history of occupational fields in China, India or other non-Western countries, some very different ideas of profession and professional hierarchy emerge (Unschold, 2010).

Very broadly speaking, the literature on professions and professional work falls into two main areas – sociological studies of *the growth and position* of professions in society and studies which focus more closely on *the specific demands* of professional work and workplaces. These latter studies draw on a range of disciplines, including anthropology, psychology, ergonomics and behavioural science. They often have a practical goal of improving the design of work and workplaces or of enhancing professional education, whereas the former corpus of sociologically inspired research on the professions exhibits a preference for

showing how professions function in competitions for status, wealth and power (Evetts, 2014).²

Developing this distinction a little further, we might also point to substantial differences in conceptions of professional work that are associated with (a) functionalist and (b) critical research traditions.

Functionalist accounts explain the existence of professions as a solution to the problem of the social control of expertise:

... the professions 'strike a bargain with society' in which they exchange competence and integrity against the trust of client and community, relative freedom from lay supervision and interference, protection against unqualified competition as well as substantial remuneration and higher social status. (Rueschemeyer, 1983, p. 41)

As Eraut (1994) points out, the social dilemma emerges because experts are needed by people who are not knowledgeable enough to make *a priori* judgements about the soundness of claims to relevant expertise. Professions have emerged to solve this problem, with powers of self-regulation that have varied between states and over time. On this view, a professional is:

... someone trusted and respected, an individual given class status, autonomy, social elevation, in return for safeguarding our well-being and applying their professional judgement on the basis of a benign moral or cultural code. (Dent & Whitehead, 2002, p. 1)

Critical accounts of the professions take a different view. Rather than seeing professions as a rational solution to a shared social problem, they tend to focus on the ways professions operate to protect the interests of their members: they provide an apparatus for seeing off competition and reproducing advantage (Abbott, 1988). Hearn (1982), for example, points to the dominance of middle-class males in the higher status professions and to the 'masculinisation' of the lower status professions, within which women may be more numerous, but find themselves managed by men.

It is worth spending some time trying to get a clearer view of this terrain, even though it is changing and contested. In the end, whether or not an occupation merits the title 'profession' is less relevant to our book and its argument than the forms of knowledge and ways of knowing implicated in the daily practices of the workers involved. It turns out that many occupations reveal occasional examples of the kinds of knowledge work in which we have a special interest. But some occupations are suffused with such work.

To reduce the sense of slipperiness, we can draw upon some classic, and more recent, analyses of the scope and nature of 'professions' and 'professionals'.

Early work in the area interpreted a profession to be a vocation based on prolonged and specialised intellectual training, allowing a particular service to be rendered (Carr-Saunders & Wilson, 1933). Scholars of the professions often refer to

² Indeed, it can be argued that sociological research on the professions has been blind to a number of very significant developments. The growth of inter-professional work is one good example (Guile, 2014).

the work of the American sociologist Talcott Parsons to advance a simple definition: a profession involves the provision of a service, based upon a body of expert, scientific knowledge (e.g. Parsons, 1968). Other early authors added a range of characteristics that are typically, but not universally, associated with professional status – including having one or more organisations that support and safeguard professional work and status, having an explicit, shared code of conduct, and having a shared apparatus for testing and certifying competence to practice (Millerson, 1964).

The possession of expert knowledge is used to explain and justify higher levels of remuneration. In some of the less traditionally class-conscious societies, expertise turns out to be strongly associated with occupational prestige. For example, working with data from Israel, Adler and Kraus (1985) conclude:

... we find that the knowledge and skills requisite for an occupation is the best single predictor of the prestige assigned to it. Value to society ... has no predictive value of prestige over and above the other dimensions considered. (Adler & Kraus, 1985, p. 36)

The history and sociology of professions alerts us to the ways in which professions defend their territories, using the possession of specialist professional knowledge as both a test of entry and a defence against unqualified individuals offering services at cheaper rates. So while professional knowledge enables professional action, it is also embroiled in the marketplace of services, being used to resist a downward spiral of remuneration levels. Such powerful forces cannot leave professional knowledge, and its definition, untouched:

The designation 'profession' is not a permanent monopoly of a few occupations. The term refers to a comparative status level attained after deliberate action by an occupation. (Millerson, 1964, p. 9)

Wilensky (1964) examined the historical development of occupations and identified a number of key stages or milestones in their evolution, notably (a) when they first became full-time occupations, (b) when they acquired training schools or university schools/programs, (c) when they formed professional associations, (d) when they became protected by law and (e) when they adopted a formal code of ethics.

The notion that not all professions are the same recurs throughout the literature. For example, Moore and Rosenblum (1970) proposed a 'scale of professionalism' to which professions approximate in varying degrees. There were six elements to this scale: full-time occupation, commitment to a calling, formal organisation, esoteric but useful knowledge or skills acquired through education/training, an orientation to service and autonomy/self-regulation.

Hickson and Thomas (1969) conducted a major empirical study of 43 professional associations in the UK and constructed a 'professionalisation index' which turned out to correlate well with the age of each association ($r = 0.41$, $p < 0.01$), lending some support to Wilensky's historical model. Hickson and Thomas also remarked that certain attributes were very common across their set of professional associations. These included such features as a requirement on gaining work experience between formal training and the granting of full professional status,

Table 2.1 The 1960s hierarchy of professions, compiled from Hickson and Thomas, based on their 13 criteria for distinguishing professional bodies (1969, pp. 44–45)

Met criteria (out of 13)	Professions
13/13	Obstetricians and gynaecologists, physicians and surgeons
11/13	GPs, civil engineers, solicitors and architects
10/13	Electrical engineers
9/13	Town planners and barristers
8/13	Mechanical engineers, chartered accountants and company secretaries
7/13	Aeronautical and marine engineers
6/13	Pharmacists
5/13	Chiroprodists and medical social workers
2/13	Radiographers and advertising executives
Not on the list	Teachers, nurses, military and church

the power of the professional association to act over non-professional conduct and other misdemeanours, defined lengths of professional preparation and agreed levels for professional fees and prohibitions on members undercutting one another. A subset of features distinguished the more prestigious and older professions, notably in medicine and the law. Table 2.1 presents the hierarchy of professions based on the Hickson and Thomas professionalism scale.

Hickson and Thomas’s analysis may say more about the mode and degree of organisation of professional bodies than it says directly about the professions themselves – hence, for example, the placing of solicitors above barristers in Table 2.1 and the absence of clerics and the military.

Such portrayals of status hierarchies represent a teasing out of a dichotomy which has been around in the literature on the professions for many years. Glazer (1974), for example, makes a sharp distinction between the major and minor professions:

The major professions are medicine and the law: the minor professions are all the rest. <...> One of the major differences between the major and minor professions is that practitioners of the minor professions do not possess knowledge at the same level of technical complexity and of the same importance to an individual’s life as that possessed by the classic major professions. (Glazer, 1974, pp. 347–348)

The writings of a number of other influential authors also capture this notion of ‘major’ and ‘minor’ professions, and some even cast doubt on whether the ‘minor’ professions are really professions at all, labelling them as ‘semi-professions’ or ‘quasi-professions’ (Denzin & Mettlin, 1968; Etzioni, 1969; Glazer, 1974).

The centrality of high-level, specialist knowledge in defining professional positioning is not universally endorsed. For some authors, and not just those adopting a ‘critical’ position, the ways in which members of one professional group manage their own work and the work of others are at least as crucial. Informed particularly by the organisation of professional work in the USA, Leicht and Fennell (1997) conclude:

... the prestige of a profession is often dictated by the ability of professionals to determine the organizational form under which service will be delivered. If medicine represents one

extreme where (traditionally) there are strong institutionalized norms dictating appropriate organizational forms for professional practice, engineering may be at the other extreme. (Leicht & Fennell, 1997, p. 225)

Turner's (1995) classification of the health professions is another case in point. Turner places medicine at the pinnacle – as the 'dominant' profession – and then identifies two other health profession groupings: the 'limited' and the 'subordinated'. The 'limited' health professions are those, like dentists, opticians and pharmacists, whose practice is *legally restricted* to specific kinds of practice and/or areas of the body. The 'subordinated' health professions, such as nurses and physiotherapists, are those in which work is normally *delegated* by members of the dominant profession. While the details of practice and autonomy may vary from state to state, and over time, the underpinning structural arrangements are important to note. Among other things, they have strong implications for the arrangement of inter-professional working and the distribution of knowledge within care teams. More recently, Saks (2015) has added a fourth category – the 'marginalised' professions such as complementary medicine. These bear a relation to healthcare, but their role and status are placed in doubt, especially by members of the dominant groups. It is necessary to remember that the status of these marginalised groups also varies from time to time and place to place. As Saks and others point out, the relations between members of dominant, limited, subordinated and marginalised professional groupings become very significant for clients at times when they need to be able to benefit from the close cooperation of professionals distributed across several of these groups.

A further consideration in distinguishing between kinds of professions, or between ways of enacting professional work, involves the extent to which such work is tackled in a narrowly prescribed way, or – in contrast – as an expansive, inventive enterprise. Carr (2014) uses the notions of restricted and extended professionalism to capture this – being careful not to assert that such a stance is either determined by a profession or entirely susceptible to the outlook and energy of each professional person. Carr speaks of the restricted professional as one who works to a set agenda, within set hours, taking little or no responsibility for the advancement of shared professional practice. In contrast, the extended professional is a:

... pro-active agent who is prepared to take time – outside any and all minimally prescribed working hours – to engage in discussion, enquiry and research regarding the progressive development of professional principles and procedures ... to assist with the education and training of junior colleagues, to take individual responsibility and initiative ... in circumstances of professional uncertainty and dilemma. (Carr, 2014, p. 19)

As we will see later in this book, extended professionalism – especially engaging in the development of innovative practice and expanding the knowledge base of the profession – requires particular kinds of skills for working with knowledge.

Provision of a professional service is normally associated with both a degree of disinterested altruism and remuneration to the professional – either directly or through an employing organisation such as a professional service firm (PSF) or a

public sector institution: a hospital or school district, for example (Evetts, 2014; Faulconbridge & Hall, 2009).

This issue of disinterested working – of the *client's* best interests coming first – has long been seen as sitting in tension with remuneration, and this tension is part of the explanation for the ways in which professional associations have formed to safeguard professional standards, quash malpractice and regulate competition (Minnameier, 2014). That said, the moral basis of professional work is at its core:

... the very idea of professional service is a fundamentally *moral* one; that issues and questions about the promotion of this or that aspect of human good or flourishing are central to the conduct of any and all occupations meriting professional status; and that any theoretical or technical knowledge which professional agents may indeed require for the effective prosecution of the various moral ends or goals of professional service are at least normatively secondary to or subservient of such ends. (Carr, 2014, p. 21, original emphasis)

Gerald Grace (2014) reminds us that the origins of professional work are to be found in religious callings – vocations – and that professional practice has to be understood as a site in which complex, competing forces are worked out. To allow professional action to be reduced to the mere expression of expert technical knowledge is to lose sight of its distinctive social purpose. Professional action needs to be imbued with a sense of moral purpose; knowledgeable action is not merely technical – it seeks to promote the best interests of others, against the forces of rampant markets or overbearing states:

Established professions ... are presented with ideological and political challenges to their professional ethics, values and commitments to common good service. What we are witnessing in contemporary society is an attempted market culture colonisation of all forms of social service in order to sharpen the overall efficiency and competitive edge of the total social formation and not simply the sphere of business. (Grace, 2014, p. 23)

In Grace's view – and ours – professions need to find ways of working that provide leadership in changing and uncertain times, both through advocacy and in the day-to-day accomplishment of professional tasks. Professional work entails the use and creation of 'moral know-how'.

From the ideas presented in this section, we need to emphasise the following:

- Professions can be understood as a social response to the problem of unevenly distributed expertise, particularly expertise that relates to core areas of human well-being.
- As organisational forms, professions also 'take on a life of their own' – they have to find ways of resolving tensions between professional, client and broader social interests; in working on and with such tensions, professional knowledge plays a shaping role, but is also reshaped over time.
- Many professionals find themselves working in complex organisational settings, on tasks that depend upon colleagues from other professions. They operate in circumstances where their own professional knowledge is insufficient for success and their own professional practices have to adapt to the practices of others.
- Professional knowledge and action are rooted in a moral framework. Professional action is always action on behalf of others; professional expertise includes an ability to integrate and advance moral and technical reasoning.

In the next section, we shift the focus to some characteristics of contemporary professional work and workplaces that place new or sharper demands on professionals and on programs of professional education. Donald Schön's (1983) remarks, made 30 years ago, about the crisis of professionalism, help frame this transition. Schön was commenting on the uncertainties that arise when serious questions are asked about the foundations of professional competence – once one rejects the notion that professional practice is simply the enactment of specialist technical knowledge:

Professionals have been disturbed to find that they cannot account for processes they have come to see as central to professional competence. It is difficult for them to imagine how to describe and teach what might be meant by making sense of uncertainty, performing artistically, setting problems, and choosing among competing professional paradigms, when these processes seem mysterious in the light of the prevailing model of professional knowledge. We are bound to an *epistemology of practice* which leaves us at a loss to explain, or even to describe, the competences to which we now give overriding importance. (Schön, 1983, pp. 19–20, emphasis added)

2.2 Demands of Contemporary Professional Work

In Sect. 2.2, we summarise three main sets of concerns that emerge from consideration of the demands of contemporary professional work and which connect to the core themes of this book. These concerns are as follows:

- The entrenched public and policy discourse criticising the adequacy of (university-based) preparation for the professions; graduates are not seen as being 'workplace ready'; there are frequent comments that they lack important general-purpose capabilities, such as being able to work in a team, communicate effectively, etc.
- The rise of performance monitoring, accountability, surveillance, regulation, litigation and other pressures, set amidst an intensification of professional work.
- New and emerging 'epistemified' demands – the necessity to engage in new and more complex kinds of knowledge work, with new and more intelligent tools and with changing distributions of expertise and labour.

As we will go on to point out, there is also a growing mismatch between the public, employer and governmental discourse about what is needed in the workplace and what close-up research is revealing about how work is actually done. Professional education curricula that respond too timidly to espoused needs may turn out to serve nobody's interests.

2.2.1 *Workplace Readiness*

There is a long history of employers' organisations – and governments, on their behalf – criticising universities for their failure to create work-ready graduates

(Hinchliffe & Jolly, 2011; Knight & York, 2004; Tholen, 2014). Some of the arguments resolve around claims that universities privilege narrow disciplinary knowledge over broader capabilities that employers say are necessary for success in the modern workplace. In practical terms, this has resulted in a number of initiatives – national and local – to develop so-called transferable skills or generic graduate attributes (Barrie, 2007; Bennett, Dunne, & Carre, 2000; Kalfa & Taksa, 2015). Coupled with this economic and social concern is an anxiety that universities are much better at teaching abstract conceptual knowledge ('theory') than they are at preparing students to work on real-world problems ('practice').

In the context of professional education, these disputes about the 'theory–practice' gap and about the degree to which graduates are 'workplace ready' have prompted a number of studies that have attempted to assess how well programs of professional preparation succeed in readying the graduate for the demands of their first workplace. Methods vary, but there is a body of empirical research that uses recent graduates' self-reports of how well their courses prepared them for the workplace (see, e.g. Keeve, Gerhards, Arnold, Zimmer and Zollner (2012) in dentistry, Schlett et al. (2010) in medicine, Hart and Macnee (2007) for nurse practitioners and Yu et al. (2013) for accountancy).

Outcomes from such studies are very varied, and much can depend on emphases in curriculum design, pedagogy and assessment. Even then, relations between broad educational approach and outcomes can be surprising. For example, Keeve et al. (2012) and Schlett et al. (2010) took a similar approach to eliciting the views of graduates from German universities of (a) the capabilities they had found of most value in their work and (b) the capabilities they felt had been relatively well developed or rather poorly developed in their professional preparation programs. Keeve et al. studied case-based learning (CBL) in dentistry and Schlett et al. problem-based learning (PBL) in medicine. Both studies reported that students felt their CBL/PBL programs left them underprepared to deal with business issues and that – perhaps surprisingly – they did not feel they had graduated with strong enough research skills. That said, in overall terms, graduates in both studies felt well prepared for most areas of practice. This contrasts with outcomes from similar studies in other professional fields – studies where graduates are asked to rate areas of capability that are (a) important in their work and (b) well or badly developed in their professional preparation. Hart and Macnee (2007), for example, report that only 10% of the nurse practitioners in their sample felt very well prepared for practice and half felt 'minimally' or only 'somewhat' prepared. They were especially concerned about the lack of rigour in their preparations for clinical work and (like in the Keeve and Schlett studies) felt poorly prepared for the business and organisational aspects of their job:

Physicians receive a much more rigorous educational experience and come out ready to practice. We do not and are embarrassed by our lack of clinical preparedness. (Hart & Macnee, 2007, p. 38)

A number of studies have been able to survey both employer and student/graduate views of the fit between professional education and workplace needs. For instance,

Yu et al. (2013) report a quasi-longitudinal study which captured views of students and their employers just after an internship and also views from alumni of the same program 1 year out from graduation. Comparing the interns' views with their employers' views revealed that, in most areas of capability, employers rated the interns' skills at a lower level than the interns' rated their own level of preparation – this was particularly the case for communication skills: a common complaint among employers, though something which is rarely subjected to close scrutiny or precise definition. One year after graduation, the alumni in this study have more moderate views than their corresponding interns – with more study and work experience, the alumni self-assessments come closer to the assessments of employers.

Studies *within* specific professions and of specific kinds of professional preparation program are necessary if one aims to improve alignment between workplace needs, assessment and curriculum design, pedagogy and so on. To get a more general sense of the relations between employers' views on workplace needs and what professional education programs are achieving depends on being able to summarise across what can be quite diverse studies. The feasibility of obtaining that general sense also depends upon complex issues about the nature of the capabilities that can be developed in university and workplace settings. For example, summarising a number of studies of employers' views, Hinchliffe and Jolly (2011) conclude that:

... employers prize most highly those skills that can only be feasibly developed in the workplace. (Hinchliffe & Jolly, 2011, p. 565)

Part of our motivation in producing this book has been to help clarify some issues about the fundamental nature of workplace capabilities, so that everyone can be clearer about what is wanted and what is really needed. In short:

- What kinds of knowledge can be learnt on campus, and what needs to be learnt during internships?
- How should we conceive of the development of workplace capabilities – especially when recent research suggests that this is not simply a matter of adding practical skills to a theoretical foundation. Rather, it seems clear, substantial *transformations* of knowledge occur when learning to use knowledge in real workplaces, on real problems.

Our research has a lot to say about the challenges of 'weaving' together different kinds of knowledge, including formal conceptual and experiential knowledge.

2.2.2 Managerialism, Performativity and Organised Professionalism

The classic accounts of professional work and professional ways of using knowledge were written in very different economic times. In the last 30 years or so,

professional work in many countries has intensified substantially – with longer hours worked and/or higher levels of productivity expected (Green & McIntosh, 2001; Kelliher & Anderson, 2010).³ Alongside this, there has been a major shift in the employment patterns for professionals, with many more people being employed to do professional work within large employing organisations (Evetts, 2014). Modes of control have shifted from professional self-regulation towards a greater interference by the state and also to greater control by managers, exercised through performance measures of various kinds (de Bruijn, 2002, 2010; Fitzgerald, 2008). In part, state intervention has been prompted by headline-grabbing failures in professional self-regulation, but it can be argued that there has also been a secular decline in trust (Allsop, 2006; Grace, 2014). Alongside this, we see growing concern about the possibilities of litigation in response to perceived failures to adhere to professional standards and a growing apparatus of measures to protect employing organisations from such risks.

Noordegraaf (2011) cautions against taking the simple opposition between professionalism and managerialism at face value. In short, he argues that a multiplicity of factors is strengthening the connections between organisations and professional work and that research on, and education for, professional work needs to consider the special qualities of ‘organised professionalism’ – professional practices that embody organisational logics. For one thing, there is a new generation of ‘managerial professionals’ who do not offer front-line services but who organise the rendering of those services. In addition, the complexity of the problems professionals find themselves facing requires organisational infrastructures – for example, to enable efficient multi-professional work and to manage risk:

... it is difficult to have one-to-one relations between professionals and clients. Clients might be empowered, or professionals must cooperate in order to provide effective services. This legitimises the rise of new *organizational* arrangements: joined-up services, multi-disciplinary and multi-agency teams, multi-professional and multi-agency partnerships, inter-professional collaboration, multi-professional practices, integrated services and the like. (Noordegraaf, 2011, p. 1360, original emphasis)

Noordegraaf predicts that organised professionalism will shift the balance of demands on the capabilities required of new entrants to each profession – with an increased emphasis on communication, cooperation and learning skills, an openness to learning the vocabularies, techniques and routines of other professional groups, to experiment with new service models and reflect on successes and failures:

³ Intensification of work is not a simple phenomenon. In some countries – notably in Europe – new legal restrictions have been placed on the length of the working week, with major consequences for working practices in areas such as healthcare. Ongoing reductions in the real resources available for professional work in the public sector, and increasing competition in the private sector, nevertheless apply pressure to raise productivity and throughput, with accompanying stresses on the workforce. In contrast, increasing participation by women in areas of professional work previously dominated by men is often being accompanied by pressures to attain greater flexibility and control over work–life balance (Heiligers & Hingstman, 2000; Kelliher & Anderson, 2010).

... professional fields need to initiate cooperative projects and products, which include procedures, guidelines and formats for restructuring everyday work forms in the light of *coordinated action*. (op. cit., p. 1363, emphasis added)

In sum, the changing nature of organisational life for many professionals means that the programs that support their formation need to pay closer attention to inter-professional working and to the identification and development of skills (etc.) that professionals use to invent new working relationships and working methods.

2.2.3 *The Mounting Demands of Epistemic Work*

The rapidly widening use of information technology in contemporary work has made much more visible the fact that knowledge is produced in a multitude of places and that it flows rapidly across organisational, disciplinary and national boundaries (Gibbons et al., 1994; Nerland & Jensen, 2014). As Nerland and Jensen (2014) explain, rendering knowledge into abstract and symbolic forms makes it easier for it to travel – to be decontextualised and recontextualised, to circulate rapidly and to be applied in unforeseen circumstances. Knowledge is no longer bound to place:

... the knowledge worlds in which professional learning is embedded are becoming more extensive and complex ... students are presented with knowledge and ways of thinking that are linked with dynamic and geographically dispersed ecologies of knowledge. These wider worlds contribute to defining relevant knowledge and competencies ... we cannot take for granted that practitioners' engagement with knowledge is bounded to given sites. (Nerland & Jensen, 2014, p. 612)

Professional capability has long been associated with a mix of specialist, abstract codified knowledge (gained largely in the university) and tacit, experiential knowledge of processes, rules, cases and practices (gained largely in workplaces). The ability to use specialist codified knowledge in the dynamic, complex circumstances of practice is not the only requirement in contemporary work sites. As Jens-Christian Smeby (2012) puts it:

Theoretical knowledge, therefore, is not just a basis for professional problem-solving; professionals also have to provide scientifically based arguments to defend their diagnoses and decisions to a greater extent than previously. Thus the manner in which professional knowledge is developed in higher education is at the very heart of professionalism. (Smeby, 2012, p. 49)

Social expectations about professional accountability are thereby placing extra knowledge burdens on those training for the professions.

On top of this, the dynamics of professional work situations are such that professionals have not only to work with knowledge and use knowledge to justify their action; they also need to be adept at practices of creating and testing new, applicable knowledge. In this sense, *professional cultures* are taking on more of the qualities and practices of *epistemic cultures* – they have to become more

knowledgeable about knowledge (Nerland, 2012; Nerland & Jensen, 2014). This includes developing strategies for creating new knowledge, of relevance to professional problems, and also strategies for redesigning ways of working – for example, to get the best out of working with other professional specialists, in new combinations, on new projects.

David Guile (2014) draws on a case study by Rogers Hall and colleagues (2002) to provide an illustration of how mixed groups of professionals have to invent ways of working with one another, almost on a project-by-project or case-by-case basis. Hall's example is from architecture – in particular, the remodelling of two historic libraries. The work was actually accomplished by architects, structural engineers, historic building preservationists and librarians. In thinking about implications for inter-professional education (IPE), Guile draws out the following points:

- Teams which form on such a case-by-case basis are best described using Engeström's notion of 'knotworking' – that is, their work entails a process of tying, untying and retying what appear to be separate threads of activity (Engeström, 2008, p. 194).
- The teams are also involved in what Victor and Boynton (1998) call 'co-configuration' – a process in which producers and users and products are engaged in ongoing relationships, through which the application of users' intelligence improves the working of products and their fit with users' needs. (We discuss this in more detail in Chap. 3.)
- Teams negotiate their own working processes, bring tensions to the surface (to broaden the inputs to the solutions chosen), reframe the problem as presented and problematise what each professional/disciplinary perspective sees as insoluble.
- In so doing, they need to create the conditions in which each professional can understand the others – their ideas, needs, perspectives and so on.

Guile draws from this the implication that inter-professional working is always a *situated* accomplishment: it depends upon social and material resources that come together in the doing of the work. This raises troubling questions about how students may be prepared for such work (Guile, 2014, p. 130; and see Chap. 19).

On a related tack, Roger Dunston (2014) talks of the 'co-production' of healthcare, a phrase which connotes:

... practices that are purposefully, 'strongly' and expansively focused on incorporating the service user(s) as competent and knowledgeable partners across all areas of health service design, development, delivery and evaluation. (Dunston, 2014, p. 141)

which also implies:

... new relational configurations in which the roles, rules and relationships that governed the way in which 'practitioners' and 'service users' interacted [are] profoundly reshaped. (op. cit., p. 142)

On this view, professionals also need to learn to create new methods for working with other partners – not just professionals from other specialties but also clients and their families.

In addition to this, professional knowledge work has become increasingly entangled with knowledge embedded in smart machines. We hear more and more about smart medical alarms, smart technologies for the disabled and the elderly, intelligent expert systems, smart hospitals, smart cities, etc. This saturation of social life and work with smart devices and systems also invites a rethinking of the shape of professional work and knowledge. Richard Susskind's (2010) *The End of Lawyers? Rethinking the Nature of Legal Services* provides a good illustration. He asks whether legal work cannot be done differently – more quickly, more cheaply and to a higher quality – and what sort of knowledge lawyers are likely to need when their work becomes even more suffused with the use of legal databases and intelligent legal systems and indeed becomes more global. While such arguments are sometimes pressed too hard – romanticising technology and ignoring the resilience of organisational forms and practices – the reality is undeniable. The availability of new technologies makes a difference to expectations about how work can be done, how work is distributed and what kinds of professional knowledge are needed.

2.3 Preparation for the Professions in Higher Education

Preparation for the professions has been part of university missions for a very long time. Professional education has been of great material importance to universities and has played a significant role in shaping questions about the purpose of the university. Many universities these days are heavily reliant on fees and related income associated with professional preparation – not just in business, but in a wide range of specialisms. The focus and evolution of universities cannot be understood as merely a concern for the reproduction of an *academic* workforce. This economic importance of professions to the university applies to both professional formation programs and certification. In return, university certification of a person's readiness to enter a profession is of great importance to the person and the profession. It is part of how the profession's status and competitive advantage are protected.

In short, the relations between the knowledge taught in universities and professionals' activity in the workplace are of great material importance for both the professionals and the universities. As just one instance, Michael Eraut (1994) comments on how universities' predilection for testing through formal examinations boosted the importance of codified knowledge:

... most examinations guaranteed only that knowledge they were able to test; and this seldom extended to practical competence. Hence one of the main consequences of their introduction was the transformation of large areas of the professional knowledge base into codified forms which suited the textbooks needed to prepare students for what were from the outset very traditional exams. (Eraut, 1994, p. 7)

Such matters give extra edge to debates about (a) relationships between explicit understanding, tacit knowledge and knowing in professional action; (b) different

kinds of tacit knowledge; (c) the meaning of explicit, articulated, formal knowledge; and (d) the location of various forms of disciplinary knowledge in this debate. Hence, we focus on these issues carefully in Chaps. 3, 4 and 5.

As the book unfolds, we will try to show that some common approaches to understanding and fostering ‘workplace capabilities’ in higher education miss the importance of ‘actionable knowledge’ – knowledge capable of informing action in organisational and other workplace settings. ‘Knowledge work’ in higher education and ‘actionable knowledge’ in organisational settings are based on rather divergent notions of the various kinds of knowledge involved and of the relationships between them. The notion of epistemic fluency provides a conceptual basis for framing and exploring what are often hidden relationships between the contingent nature of professional work and ways of knowing adopted in professional communities and used in organising professional knowledge work.

2.4 Approaches within Professional Education

There is a rich, varied and rapidly growing literature on professional education, workplace learning, work-integrated learning, practice-based education and so on. We do not aim to reflect that literature here.⁴ Rather, our aim is to offer some simple structuring of the main approaches in the field, as a way of connecting to core concerns explored later in this book.

Michael Eraut (1994, pp. 6–7) summarises the main modes of preparation for the professions as follows, indicating that most people’s experiences involve a combination of several of these, in variable order: (a) a period of pupillage or internship; (b) enrolment in a professional college (outside the university system); (c) a qualifying exam – normally set by a professional association; a period of university study, normally resulting in an academic qualification; and (d) collection of evidence of practical competence – e.g. through a portfolio. In the past 20 years, many university schools and faculties that have a serious engagement in professional education have focussed efforts on achieving a better integration of workplace experience and academic study, in ways that are both stimulated and constrained by the actions of professional bodies. Indeed, a key consideration for academic staff managing programs that prepare students for a profession is how the combination of academic and workplace experiences can improve upon what students might learn merely through immersion as an apprentice in the professional workplace: what exactly is the added value of academic study, over and above the knowledge obtainable in the workplace? As Billett (2014) has pointed out, looking over the span of human history, direct instruction is a novel method for helping people learn how to work, and it is not at all clear that the kinds of learning that are best

⁴ For general summaries, see Billett, Harteis and Gruber (2014).

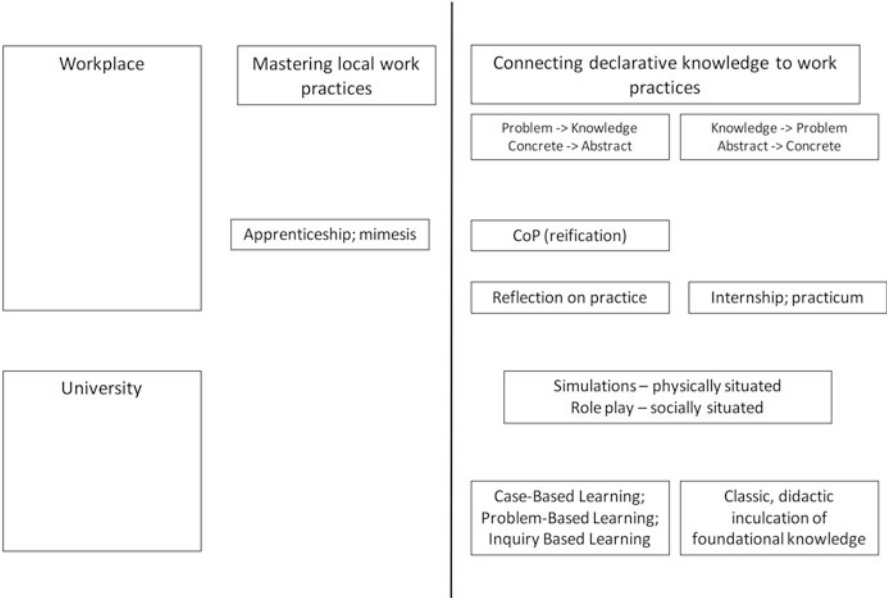


Fig. 2.1 Schema for approaches to professional formation

supported by formal educational processes are particularly important when it comes to getting things done.

A growing consciousness of the precarious relationships that may exist between academic study and workplace performance provides fertile ground for experimentation with new ways of linking the lecture hall and workplace. It is not merely that more and more workplace experience is seen as necessary; rather the search is for educational processes that help each student professional make connections between workplace and academia. The rest of this section provides a necessarily brief overview of some of the main approaches that are used to do this. Figure 2.1 provides one way of giving shape to the field.

The vertical dimension in Fig. 2.1 is broadly spatial, referring to the organisational setting for work-related learning. We can divide this roughly into university-based learning and workplace learning, while acknowledging that communication technologies make it impossible to insist on a sharp boundary between the two.

The horizontal dimension in Fig. 2.1 is knowledge oriented. On the left, we locate learning for work that is undertaken in circumstances where little or no explicit attention is paid to declarative or propositional knowledge.⁵ In everyday language, we might say this involves a focus on practice, with little attention to theory. It values local ‘know-how’ over generalisable ‘know that’ and tacit

⁵ Chapter 4 explains different kinds of knowledge.

knowledge over articulated knowledge and contribution to the productive work of the organisation over personal learning. Much of what is learnt is learnt through imitation (*mimesis*) and is a by-product of engagement in productive work (Billett, 2014). Of course, workplace learning can be done differently, and it may indeed involve structured opportunities to connect local practice to more general principles (Fuller & Unwin, 2014). However, such forms of apprenticeship start to move us to the right-hand side of the figure, where serious attention is paid to connecting ‘theory and practice’. On this side of the figure, we distinguish educational arrangements on the basis of the direction of the relationship between problems of work and declarative knowledge. So on the far right of the figure, we see approaches that focus on the application of previously learnt declarative knowledge (‘theory’) – the movement being from abstract to concrete. Nearer the middle, we have approaches that use problems as the starting point, with the movement being from concrete to abstract, from ‘practice’ to ‘theory’.

Thus, for example, we can locate the use of approaches based on ‘communities of practice’ (CoPs) in a space that is close to the workplace and where a characteristic activity involves capturing and sharing knowledge that is embedded in practice through processes of ‘reification’ – making things which represent and/or embody that knowledge (Wenger, 1998). The use of simulations and role-play activities is located near the interface between ‘workplace’ and ‘university’ in Fig. 2.1. In a literal sense, such learning activities are typically located in the university. But for educational purposes, they bring some affordances of the workplace to the university. For instance, the use of simulators instead of real equipment allows learning activity to proceed as if it was physically situated in the workplace – at least, to an acceptable degree of workplace fidelity. Role plays can serve a parallel function with respect to an experience that depends upon qualities of the social situation – on social resources for professional problem-solving that would not normally be found in academia. In the bottom right-hand corner of the figure, we have much-maligned classic ‘academic’ approaches to professional preparation, of the kind where a high value is placed on inculcation of foundational theoretical knowledge, the application of which is somebody else’s problem.

Inter-professional education (IPE) is a vitally important area but hard to locate within this scheme. This is partly because the need for skills and knowledge to work across professional boundaries is now well recognised in workplaces, but the definition and learning of such skills are still in flux. We return to this shortly.

In the next three subsections, we give very brief summaries of three closely related and quite widely practised approaches to professional education that sit together in the ‘university-based, problem-driven’ area: case-based, problem-based and inquiry-based learning.

2.4.1 *Case-Based Learning*

Case-based learning (CBL) is one of the older pedagogical inventions in professional education. Its roots are in nineteenth-century legal education at Harvard,

where it was introduced to overcome difficulties with the two then dominant modes of training lawyers – apprenticeship in a legal firm and lecture courses in a law school (Williams, 1992). The first of these was held to be very uneven in its outcomes and the second lacking in practicality. Under the case method, students’ training involved consideration of authentic cases from the legal records, with discussion led by a law professor who also had deep, extensive practical professional experience. Students were challenged to make sense of legal language, procedures and constructs with little or no direct instruction or theoretical framing. Reports of their early learning experiences attest to long periods of confusion before an ability to understand and analyse the merits of cases developed. The case method spread to other Harvard faculties and – with variations – to other universities. Christensen and Hansen (1987) describe the Harvard case method in business education as follows:

A case is a partial, historical, clinical study of a situation which has confronted a practicing administrator or managerial group. Presented in narrative form to encourage student involvement, it provides data – substantive and process – essential to an analysis of a specific situation, for the framing of alternative action programs, and for their implementation recognizing the complexity and ambiguity of the practical world. (Christensen & Hansen, 1987, p. 27)

While case-based learning was deemed, in law, to be necessitated by the structure of the law itself, in other professions, it is the vividness, concreteness and contextual specificity of the case that count (Merseth, 1996). This is held to assist in constructing a more nuanced understanding of professional principles: wrestling with authentic cases necessarily involves integrating diverse sources of knowledge, making subtle judgements and difficult decisions. More recently, case-based forms of learning have been the subject of a further line of innovation (Kolodner, 2006). Cases are not only considered as a pedagogical method – to learn more contextualised kinds of knowledge; they are seen as a distinct *way of reasoning* underpinned by a particular way of organising knowledge and particular cognitive processes that support expert resolution of complex issues. (We discuss this further in Chap. 19.) Experience in the use of case-based education methods has also proven to be an important foundation for innovations in problem-based learning.

2.4.2 Problem-Based Learning

Problem-based learning (PBL) has made substantial inroads into programs of professional preparation, especially in medicine, other health professions, engineering and law (Barrows & Tamblyn, 1980; Boud & Feletti, 1997; Schmidt, Rotgans, & Yew, 2011). PBL takes a number of forms, but its core characteristics include using problems to trigger learning; students working in small self-directed problem-focussed groups, with access to tutor guidance; and a shift of time demands away from lectures and towards self-study. PBL is motivated by an ambition to help students develop knowledge of a domain in a particular

way – one which is aimed at helping students to connect knowledge that they learn to problems in the field of application (Schmidt et al., 2011). While some critics have argued that poorly guided PBL can be ineffective (Kirschner, Sweller, & Clark, 2006), there is substantial empirical evidence to indicate that, well implemented, it provides effective support for the development of *actionable knowledge* as well as practice in developing strategies for ongoing learning and inquiry (Albanese & Mitchell, 1993; Dochy, Segers, Van den Bossche, & Gijbels, 2003).

2.4.3 *Inquiry-Based Learning*

Inquiry-based learning (IBL) places a strong emphasis on the need to generate new knowledge, and/or to hone skills for independent learning and research (Aditomo, Goodyear, Bliuc, & Ellis, 2013; Doane & Varcoe, 2008; Spronken-Smith et al., 2011). It is rarely used for whole professional programs, but has a significant role in a range of professional courses. Depending on the ways in which IBL is implemented, it can be seen as a version of collaborative knowledge building (Bereiter, 2002; Moen, Mørch, & Paavola, 2012), which we explore in more detail in Chaps. 3 and 19. As we saw earlier in this chapter (Sect. 2.2.1), graduates of some case-based and problem-based learning programs expressed the view that while their education had equipped them with lifelong learning skills, it had not set them up well for *research* – for creating knowledge new to their practice. IBL has the potential to help here and, as we show in Chap. 19, is core to the development of professional education that equips new professionals to innovate.

In the next three sections, we move upwards on Fig. 2.1 to summarise some key ideas in the professional education literature related to learning in the workplace. Section 2.4.4 discusses the use of internships or various kinds. Internship on its own can be a valuable way of learning to apply theoretical knowledge on problems of practice. Section 2.4.5 describes reflective ways of learning. While reflective learning is not limited to the workplace, if experiential learning is also meant to build more general personal understanding, then it is commonly coupled with requirements to engage in structured forms of reflection. Section 2.4.6 outlines the educational use of ideas associated with communities of practice.

2.4.4 *Internships*

On a longer-term historical perspective, one might argue that learning in the workplace is the norm and that attempting to train people for work in schools and universities is a modern aberration (Billett, 2014; van Woerkom & Poell, 2010). University-based formation of professionals has been justified on a number of

grounds, including the rapid growth in technical knowledge and the need to develop capabilities that question and can transform existing working practices (Eraut, 1994; Glazer, 1974; Guile, 2014). That said, university-based courses are invariably complemented with more or less structured workplace experiences. These go under a variety of names, including practicum, clinical placement, internship and externship. The rationale for work experience in general is rarely questioned, but in any single example, there is likely to be a mix of motivations. These include an ability to test theoretical ideas in circumstances of practice, gaining experience in recognising and framing messy, complex, practical problems, learning to work with others, learning from experienced colleagues, working with real clients, learning to navigate the geography of real worksites, learning local rules and procedures, mastering the technical equipment of the workplace and so on.

Internships – whatever label is used for them – usually require some forms of pedagogical structuring and support. For example, there may be a designated workplace mentor whose role is to help the novice intern through a process of induction into the workplace and who may also be involved in assessing the intern's workplace capabilities. In addition, the intern may be required to complete tasks that are not part of the normal work – such as keeping a reflective journal or portfolio. We analyse a number of structured tasks of this kind throughout the book, particularly in Chaps. 13 and 14.

2.4.5 *Reflective Practice*

The notion of reflection in and on one's professional learning and action has a long pedigree, going back through the work of Donald Schön (1983, 1987) to John Dewey (1910) and others. We discuss notions of reflection more thoroughly in Chap. 3. For now, it is important to note that the immediate, surface appeal of reflection as an activity in professional education, and its incorporation into the production of educational artefacts such as portfolios, has been accompanied by a conceptual dilution of the term. For some, it now means little more than 'thinking about what happened'. Part of the problem can be seen in significant differences between Dewey's and Schön's notions of reflective practice. Also, the two very different meanings of Schön's terms 'reflection in action' and 'reflection on action' have added to the confusion. The second of these has achieved wider currency in professional education programs, but in its travels, it has lost or stretched its connections with Schön's distinctive notions of professional action. Schön's conception of the reflective practicum gave a significant role to the teacher (or coach/mentor) – discussion between student and coach being an important site and resource for reflection (Schön, 1987, Chap. 7). This has also disappeared from many instances of the use of reflection in professional education programs. In short, educational practice has tended to treat 'reflection' loosely and unproblematically. Furthermore, changes in the nature of professional work since the times in which Schön was writing have raised serious questions about the power of individual

reflection to equip a new graduate for contemporary workplaces, especially for inter-professional work (Eraut, 1994, pp. 147–148; Boud, 2010; Frost, 2010; Guile, 2014). This realisation has given rise to new forms of collective reflective practices that increasingly are embedded in organisational change and learning processes (Checkland & Poulter, 2006; Senge, 2006). That said, they have not yet made a significant impact in professional preparation programs generally. (We discuss them more extensively in Chap. 19.)

2.4.6 *Communities of Practice*

The term ‘community of practice’ derives from the work of Jean Lave and Etienne Wenger on situated learning (Lave & Wenger, 1991; Wenger, 1998). It began as a way of referring to naturally occurring social practices and helped explain how skills are learnt, and identity is developed, in traditional community settings. Like reflective practice, this apparently simple and accessible idea has been taken up enthusiastically in professional education – and in education more broadly – while at the same time losing some of its core characteristics (Barton & Tusting, 2005; Fuller, Hodkinson, Hodkinson, & Unwin, 2005; Henderson, 2015; Quinn, 2010). An important question is whether a community of practice (CoP) is necessarily a naturally occurring, self-managing group of people, united in shared practices, or whether CoPs can be set up by educators, for educational purposes. For Wenger in particular, the ways CoPs create objects that embody valued practical knowledge – a process of *reification* – are an important resource for the development of capability, for individual workers, for the community as a whole and for other communities (Wenger, Trayner, & de Laat, 2011). Another significant issue is whether understandings of who learns from whom in a relatively stable, traditional CoP necessarily apply in contemporary workplaces, where newly arrived junior workers are often used as a source of updating by ‘old timers’ (see, e.g. Fuller et al., 2005). In addition to these more traditional communities of practice, new forms of (open and global) communities of innovation, professional networking and learning have been emerging. In such networked communities, the boundaries are not set so tightly around particular professions or workplaces. They include much more heterogeneous relationships and simultaneous processes of innovation and learning (Carvalho & Goodyear, 2014; Wenger et al., 2011). Students’ participation in such communities tends to be unacknowledged in formal education settings (Nerland, 2012).

2.4.7 *Inter-Professional Education*

The need for more and better inter-professional education (IPE), to improve collaboration across professional specialisms, has been recognised for some

years, particularly in the health sector (WHO, 2010). As we argued earlier in this chapter, the ability to work across boundaries – with other specialists and with clients who are taking on more responsibility for the co-production of outcomes – is becoming a more salient feature of work in many professions. Guile (2014) sees this as creating a paradox within professional education, where the need to develop the abilities for such boundary-crossing work is marginalised by discussions that insist on the importance of ‘foundational’ disciplinary knowledge. Tensions between disciplinary knowledge, professional specialist knowledge and the knowledge needed to collaborate effectively with others – each of which needs space in a packed curriculum – make it harder to resolve an appropriate focus for IPE:

IPE aims to encourage different professionals to meet and interact in learning to improve collaborative practice and the health care of patients/clients, and therefore has more potential for enhancing collaborative practice than a programme of multiprofessional education (where professionals share their learning experiences but do not interact with one another, such as a joint lecture) or uniprofessional education (where professionals learn in isolation from one another). (Reeves et al., 2008, p. 3)

While approaches to IPE vary considerably, there is consistency around the point that getting students to engage in collaborative work across their professional specialisms needs to be approached in a carefully planned and structured way; it is not enough to simply place students from different professions in the same classroom or practicum context (IOM, 2013). As we will explain in Chap. 3, inter-professional working requires and develops what Anne Edwards (2010) calls ‘relational expertise’. Serendipitous encounters between novices from different professions are a very inefficient and unreliable way of helping grow the knowledge needed to function effectively within an inter-professional team, especially if the novice professionals are also very focussed on exercising their own specialist skills and learning the routines of an unfamiliar workplace.

Research on high-functioning teams in healthcare settings underlines the importance of everyone in the team having a shared sense of purpose – understanding the collective goal and how to attain it – as well as having good levels of understanding of each other’s roles and unique professional capabilities and high levels of mutual trust (Mitchell et al., 2012). In short, IPE has aims that depend upon an ability to interweave high-level conceptual knowledge, specialised skills, professional identity, personal knowledge and trust. How experienced professionals weave such apparently disparate resources in the execution of their work is an important theme in much of this book.

2.5 Concluding Points

In this chapter we have tried to sketch some territory which will be familiar to readers who are engaged in professional education, whether as teachers of professionals or as researchers of the field. Our main concern is to create some connections from this familiar territory to the core concerns of knowledgeable

action, actionable knowledge and the nature and development of epistemic fluency which permeate the rest of the book. The following points may help strengthen these connections:

- Professional work has always involved an ability to blend codified knowledge with experiential knowledge. This is becoming more challenging as (a) codified knowledge expands and changes and (b) workplaces and work practices become more complex and dynamic.
- Professional education approaches that optimise for teaching codified knowledge cannot be relied upon to provide good foundations for either knowledgeable action or the development of new knowledge and innovative work practices. This latter kind of knowledge is deeply entrenched in the relationships between one's personal capability and the capabilities of others, abstract forms of knowledge and situated practice.
- Professional preparation needs to change, and this change needs to be informed by sharper understandings of knowledge, knowledgeable action and actionable knowledge. As we argue throughout this book, professional preparation needs to shape, and be shaped by, an understanding of how professionals weave together diverse forms of knowledge and diverse ways of knowing – that is to say, by an understanding of epistemic fluency.

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