Contexts, Debates, Histories, and Futures of Postgraduate Education in Higher Education

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Abstract

Reimagining the development and administration of contemporary universities in the twenty-first century must include a reconsideration of the purposes, character, and effects of postgraduate education. Such a reconsideration must in turn entail interrogating the contexts in which postgraduate education is enacted, the debates attending those contexts, the histories marking the growth of key elements of postgraduate education, and also potential alternative futures for prospective initiatives and innovations in postgraduate education.

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In foretelling the subsequent chapters in the handbook, clustered around five sections, this chapter assembles these contexts, debates, histories, and futures in ways that highlight that the genealogies of postgraduate education, as well as its current manifestations, are by no means consistent, even, or teleological. On the contrary, developments in one part of the world were resisted for considerable time in other parts, as illustrated by the widely divergent dates of the first awards of the PhD degree in different countries. At the same time, the chapter also accentuates the commonality and consistency of certain themes related to postgraduate education, including the expected contributions by doctorates to generating new knowledge, the sometimes countervailing pressures that such knowledge should have practical applications and implications, and currently the seemingly irresistible rise and global impact of neoliberalism in relation to doctoral study and supervision.

Keywords

Digital futures · Doctoral supervision · Historical perspective · Managing doctoral programs · Neoliberalism · Postgraduate careers · Postgraduate education · Postgraduate pedagogy · Student–supervisor relationships · University contexts

Introduction

Postgraduate study is undergoing transformation, making it timely but also exciting to consider current experiences and evolving trends in postgraduate education. Earlier volumes and handbooks on higher education appeared in the 1970s (see for example Knowles 1970, 1977), but since then the expectations of stakeholders of higher education, the programs and their delivery, the scope of and ambitions for higher education, and the pressures and responses have all changed markedly. There has in turn been a proliferation of writing on higher education in general and postgraduate education in particular, including multiple volumes on good supervision (see for example Kamler and Thomson 2014; Taylor et al. 2018), as well as the workplace changes brought about by a rise not only in the numbers of students undertaking postgraduate study but also in the amount of university teaching undertaken by postgraduate casuals (Bettinger et al. 2016). Handbooks for enhancing higher education, for "future proofing" it, and for humanizing it now exist (see for example Marshall 2016; McNiff 2016; Mukerji and Tripathi 2017). Internationally, major developments including the Bologna Declaration (1999) have shaped the nature and design of postgraduate study (in the European Union specifically in terms of the Bologna Declaration). More generally, discourses of the "knowledge society" both valorize postgraduate education and also place demands on it in terms of perceived relevance or usefulness. Scholars in the field have called for radical reappraisals of the intentions and delivery of postgraduate education (Åkerlind and McAlpine 2017; De Meyer 2013), and the ubiquitous neoliberalism informs discussion of higher education (Hyatt et al. 2015; Ingleby 2015).

Out of this body of writing, this handbook is distinctive for the focus and value of its chapters and their recommendations. For people who have the intention or desire

to establish a center of higher education, the question arises of what might its executives, its administrators, and its academics need to know about postgraduate education? Perhaps the most important message may be that the field is mutable and volatile, and is one where traditions should be worn lightly. After all, the PhD is now the pinnacle of postgraduate study but was not that long ago considered an innovation, even quite a vulgar one, at some universities. For instance, the Faculty of Arts at the University of Sydney in the 1950s (Sydney had offered PhDs only since 1947) included academics who derided the "awful American" PhD (Forsyth 2014, 28). Now the PhD is entrenched globally not merely as a degree but also as the normal prerequisite to an academic career, making these earlier academic sneers seem quaint. However, the PhD has been joined by a host of other doctorates, professional and educational, not to mention the diverse types of masters and other postgraduate qualifications that continue to evolve and multiply.

Postgraduate Education in Historical Perspective

To gain a clearer sense of the evolutionary, gradual, and even sometimes radical development of postgraduate study, it is worthwhile to open this volume by giving attention to two occasions in the history and development of higher education when universities were in fact "new" and making decisions about their programs, their staff members, their teaching, and their titles. One of these occasions was the rise of the schools in twelfth-century Europe; the other was the emergence of the research university in nineteenth-century Europe, especially Germany, and the importation of the idea and institution to other places, in particular the United States. In both cases, new, often untried means of delivering, assessing, benchmarking, and deploying higher education were seen to be arising. From here, a long distance view of expectations, practices, and changes is gained.

In the schools of the twelfth century, the doctorate referred to what people did and taught as much as to what they had studied and the qualifications that they held. Proceeding from bachelorship to mastership and doctorate was an academic pathway apparent in the organization of medieval universities (Haskins 1957, 24). In the complexity of medieval learning and the activities of different institutions across a continent, generalization is ill-advised and impossible. Nonetheless, the doctorate as an academic entity and an award is historically discernible. In the words of the historian Jacques Verger (1992), "a master or doctor could teach, but this was not indispensable." What the doctorate did indicate, however, was "total mastery of the discipline" (144–145). The Disputation Exercise allowed candidates to show publicly their worthiness to receive the degree (Norton 1909, 116). The doctorate meant that certain responsibilities and in particular certain lecture topics were the reserved activities of the doctors (Rashdall 2010, 209).

The medieval doctorate did not spring forth fully formed. It was the product of practical measures in gathering together scholars with recognized expertise and the force of specific measures such as episcopal injunction, principles of canon law, and political will, as well as the insistence of university masters on the supranational

character of their institutions and their relative freedom from interference from higher powers (in this case the papacy) (Noble 1994, 5). The degree, the title, and the authority that both of these developments gave could sometimes be the product of historical randomness. Thus the Master of Arts in the German academy is called a Doctor of Philosophy (Rashdall 2010, 22). The higher qualifications took a variety of forms and names, and again in the German system the habilitation became an entry point to lecturing in a university (Axtell 2016, 269).

Historians of medieval universities, including Charles Homer Haskins (1957) and D. P. Leinster-Mackay (1978), have insisted that aspects of the teaching and governance of these institutions remain recognizable in their modern successors. However, to grasp fully the evolving nature of postgraduate study and also to understand more of its dynamic character, it is necessary to move further forward in time. Famously, Wilhelm von Humboldt provided an academic and institutional framework for the establishment of the Prussian university that now bears his name. But more importantly he gave impetus to a particular academic structure that facilitated the emergence of the PhD. Humboldt's achievement was not so much stimulating the founding of a university as inspiring a university in which the transmission of knowledge and the furthering of knowledge were both undertaken. In Humboldt's context, that entailed the merging of the teaching at university with the research at the private academy (Noble 1994, 6). These developments had important and cascading implications. Fields of study required years to master, while members of the same discipline judged the work of one another as assessors of doctorates and scholarly societies and publications in what Haskell (1977) has termed the "community of inquiry" (18; see also O'Boyle 1983, 6).

By contrast, the PhD appeared in some higher education contexts as a fully formed, ready to use commodity. Considered an "academic import" from Germany by the historian James Axtell (2016, 267), the PhD came to the universities of the United States often in the person of German holders of PhDs lecturing in America, or Americans who had studied in German universities. Nonetheless, asserting the trajectory between a German model and an American adoption should be done with a clearly nuanced impression of differences (O'Boyle 1983).

Externally, postgraduate study could take place among the instant medievalisms of nineteenth-century architecture. The "majestic halls" of Princeton's Graduate College gave space to residential graduate study among gothic quads and refectory (Axtell 2016, 271; Shand Tucci 2005, 126). Other universities followed suit, creating a neo-medieval context for an Enlightenment course of study with seemingly little thought for the intellectual dissonance of their actions. Yale awarded a PhD to Eugene Schuyler in 1861 and Boston University awarded one to Helen Magill. By 1900 the University of Toronto had awarded one. Elsewhere, Oxford's first PhD was in 1920 and by the 1930s there were over 6000 postgraduate students (not all PhD students) at British universities (Hogan and Clark 1996, 118). But the University of Melbourne did not award a PhD until 1948 (Noble 1994, 73–74).

In time emerged what Kohler (1990) called the "PhD machine" (643) of North American higher education from the 1880s, a rise in the number of students undertaking a PhD driven by its increased recognition as the necessary credential for an academic career but also in professional fields as well.

Emergence into American higher education did not mean slavish imitation. Kohler (1990) pointed out that American graduate programs involved more formal connections between staff members and student than the looser "discipleship" of European models (642).

Doctorates have a long history and have undergone several iterations in terms of what they meant, the authority and status that they bestowed, and the work that they involved. Doctors of Music, Doctors of Divinity, and Doctors of Medicine have graduated from European and American universities. The transition of particular significance is the appearance of the PhD. The *Philosophiae Doctor* as the highest degree is not simply a qualification but also an industry-standard requirement for academic postings. The rise in the number of students undertaking doctoral study has in turn prompted and required organizational and human resources infrastructure, including dedicated centers for postgraduates and professional development for staff members and students.

The relevance, quality, and character of postgraduate study, now an undertaking of several centuries, has long attracted detailed scrutiny. As the pinnacle of postgraduate study, it is the PhD that may be most intensively examined. Importantly, the quality of an institution's PhD has been used as a wider measure of institutional quality. Raymond M. Hughes, the President of Miami University in Ohio, announced in 1925 that his process for selecting staff members was to rank institutions according to the quality of their graduate work. Forty years later, Hayward Keniston of the University of Pennsylvania used the quality of the PhD as the ranking measure for judging the quality of entire academic departments (National Research Council 1995, 10).

However, such scrutiny could turn in both directions. If the PhD could be used as the barometer for measuring institutional quality, that meant that the quality and relevance of the PhD also came under examination. In the United States, the National Research Council (NRC) commissioned and subsequently published *An Assessment of the Research-Doctorate Programs*. In 1995 the same body issued a revised version as *Research Doctorate Programs in the United States: Continuity and Change* (Goldberger et al. 1995). Studies showed more universities offering doctorates and more students undertaking them while also contributing data to allow for policy and planning around higher education. That included ongoing strategizing to increase completion rates, an issue of enduring significance.

Indeed, the rise of what Holligan and Sirkeci (2011) referred to as "audit culture embedded in reputation management, quality control and ranking hierarchies" (45) has made the scrutiny of both quality and relevance more intense than ever. It also makes the contribution of this present volume clear, in the coverage that it offers of a still-evolving world of postgraduate study options, means, quality testing, and processes.

As was noted above, postgraduate study is neither static in its character nor uniform in its changes. The medieval university bequeathed to its modern successor the notion of the doctorate, but the Enlightenment university presents a more familiar vision (to modern eyes) of the doctorate as a body of work contributing new knowledge. More recently, another transformation has seen the doctorate becoming (in some opinions) "a training period for future researchers, rather than a piece of work that changes the course of human knowledge" (Park 2005, 190). However,

decades separate the diffusion of the PhD around the globe, and Australian universities, for example, awarded their first doctorates 80 years after the first American PhD at Yale. As such, some changes or challenges are inconsistent in terms of when and where they appeared, and developments such as the doctorate by publication are still relatively unknown in some countries and are as yet only an emerging trend.

Postgraduate Education in the Twentieth and the Twenty-First Centuries

These considerations bring us to the suite of different pedagogies, programs, countries, and policies examined in this collection. The chapters in this handbook offer an exciting series of explorations of changing and evolving postgraduate study. Some focus on the PhD, others on professional doctorates, some on masters, and some on taught postgraduate programs. The chapters also examine the study from different angles, including student and supervisor relationships, support programs for international higher degree research students, and academic leadership, university administration, and quality benchmarking.

More specifically, the collection approaches postgraduate study from the following five perspectives:

In **Section One: University Contexts Affecting Postgraduate Education**, the focus of the contributors is on the surrounding infrastructure, resources, policies, and practices that shape postgraduate study. Chapters in Section One also examine a variety of contexts, including Australasian and African locations, and a variety of degrees, including the traditional PhD and the professional doctorates. Following the editors' opening chapter, Cheryl Crosthwaite begins at the top by examining the impact of leadership competencies on academic heads of departments who oversee postgraduate study. Like other chapters in this section, Crosthwaite introduces what developments have taken place not only within universities but also in their surrounding political and policy environments, including the emergence of managerialist practices and the demand for competence in this space. The chapter applies the Competing Values Model both to advocate for and to propose ways to achieve higher competence levels.

Diane Phillips writes with a particular focus on Australian higher education; however, the impact of neoliberalist political and economic philosophies that she delineates is a global phenomenon. As she points out, one core implication of neoliberalism has been to transform universities into a product that can be internationally marketed and exported. Within the university, work is valorized if it is auditable or can be measured via a metric. Against this backdrop, Phillips posits that a university needs its staff members to be adaptable to these new imperatives and challenges, a call that cascades down to a rethink of doctoral study.

The emergence of neoliberal priorities is next applied to the dyadic relationship between postgraduate student and supervisor in E. S. Grossman's chapter. Grossman pinpoints what could be considered a perfect storm afflicting this relationship, including the combined effects of the massification of student numbers, the increase

in academic staff workloads, the reduction in staff numbers, and more profoundly changes to what is considered the production of knowledge. Mindful of the impact of these changes, and asserting that formal university provided training for postgraduate supervisors may not be adequate or in all cases successful, Grossman proposes ways to achieve more informal staff participation in opportunities to develop supervisory relationships.

Luke van der Laan and Jenny Ostini move attention from a particular focus on neoliberalism to assessing further external intellectual and economic developments that change the world around universities and that therefore by necessity compel change in the universities. They posit that there are competing and often noncomplementary discourses surrounding higher education. Universities should and must innovate and disrupt across an exceptionally wide range of economic, ecological, and social spheres, yet universities are "slow to change" and they often institutionalize the status quo (as the reactions to the PhD at the University of Sydney, mentioned earlier, exemplify). Specifically, van der Laan and Ostini suggest that universities are in the "Conceptual Age" (a progression from the "Information Age") and that they have reached a point of development recognizable as the "third generation" of postgraduate studies, both creating circumstances where robust academic leadership and future ready graduates are becoming necessities.

Marie Manidis's contribution brings into specific focus international higher degree research candidates in their first year. The first year of undergraduate study is by now an extensively researched field. The first year of international postgraduate study is explored via the author's ethnographic study and the chapter presents valuable recommendations to maximize the learning achievements of these first year students, stressing in particular the importance of participation in the available research activities. These recommendations are situated within a global context that is fostering changes to postgraduate pedagogy as well as the more localized changes unique to particular institutions and their faculties.

The themes of emergent trends and changes to practice and pedagogy are further examined in D. P. Dash's evocation of "second-career academics." Particular attention is also given to taught or coursework postgraduate study rather than the dissertation- or thesis-based outcomes considered in many other chapters. A second-career academic is not only one who joins the academy later in life and career, but also one who brings extensive professional expertise with her or him. Dash points out that the recruitment and subsequent continuing academic development of the second-career academics are simultaneously valuable and difficult. The value lies in the authentic, credible teaching in postgraduate courses that they offer, the difficulty in managing often drastic career transitions. The chapter contributes strategies for managing the challenges of this career transition while recognizing the value that the second-career academic brings to postgraduate education.

Finally for Section One, Marcus Harmes and Barbara Harmes consider the management of international students' information literacy needs. As is also demonstrated elsewhere in the collection, international students are a major import as higher education is a major export. Accordingly, it is crucial for these students' information literacy needs to be identified, fulfilled, and evaluated.

Section Two: Graduate Students and Digital Futures provides analysis of emerging digital opportunities and their intersection with postgraduate education. Claire Aitchison, Susan Carter, and Cally Guerin contribute an account of an academic blog, *DoctoralWritingSIG*. Like other contributors to this volume, they locate post-graduate study as being caught at points of tension and contradiction. Doctoral study can be an isolating process, yet there has been an efflorescence of networked online research communities that is increasingly including senior and established academics where there are exciting and emerging opportunities for connection between students and supervisors.

A key element of investigating graduate students and digital futures is under-standing how diverse student, industrial, and political requirements help to frame the development of different types of doctoral programs. These program types include the Ph.D., various kinds of professional doctorates, and doctorates by publication, portfolio, and practice. In articulating these doctorate program types, Fernado F. Padro, Jonathan H. Green, and Robert Templeton link them with broader and ongoing shifts in doctoral students' demographics and aspirations.

This section includes Sue Gregory, Michelle Bannister-Tyrrell, Jennifer Charteris, and Adele Nye examining evolving trends in the provision of postgraduate students in distance and remote areas and providing their account of heutagogy, a form of self-directed learning. They present the findings of three case studies that endorse the notion of postgraduate study as taking place within complex environments in which students need capacity building to be autonomous and self-directed. These capacities are in addition to content knowledge.

Finally in this section, not all learning takes place on campus, and some by necessity takes place in restricted environments. While the number of postgraduate students who are also prison inmates is globally small, they are a cohort who confront obstacles to study and present challenges to university administrators and supervisors. Helen Farley and Anne Pike bring together their perspectives of research students working behind bars, based on their own experiences of working with incarcerated students in Australia and the United Kingdom respectively. Their chapter first provides a generalised account of the interaction between carceral priorities and efforts to study, before providing recommendations for university staff who may be unaware of the challenges of studying within prison or uncertain about how to meet these challenges.

Section Three: Pedagogy and Postgraduate Programs begins with work by Chivonne Algeo, Darrall Thompson, Elyssebeth Leigh, and Danny Carroll that bridges the sections of this handbook from digital futures to pedagogy by examining the use of software along with teaching and learning strategies. These strategies are offered against the backdrop of an exploration of a shifting dynamic between postgraduate students and their advisers or supervisors, whereby the latter's contri-bution is moving away from being the provider of knowledge to serving a function more akin to that of a coach and as the facilitator of a process. Their chapter contributes to the discussion of student and supervisor relationships that others in the volume offer, including Grossman. Their context is Australian, and the custom-ization of software by the University of New South Wales's Business School, and they discuss the generally positive uptake of approaches that have reoriented

students away from an expectation that they will be "told" what they need to know and towards a greater emphasis on learning over teaching.

Many of the chapters in this collection concern students and academic staff members, while Margaret Kiley orients attention to the substantially important role of administrative staff members. In common with other chapter authors, Kiley is alert to often drastic changes in the landscape of higher degree research, including changes to entry qualifications, student demographics, and employment outcomes for graduate students. In the light of these change, Kiley proposes a range of strategies for the appropriate support of university administrative staff members to support in turn academic supervisors, especially in development programs.

Michael Cohen, Sukanto Bhattacharya, Munirul H. Nabin, and Shuddhaswatta Rafiq continue this theme of the provision of support, giving attention to taught masters coursework programs such as the Master of Business Administration (MBA) degree and the use of game theory to develop and encourage postgraduate learners. While postgraduate study may often be envisaged as the face-to-face interaction between a supervisor and a student, this chapter gives attention to learning that is possibly online, on-campus, or blended and to the management of student learning through the application of game theory, such as for the making of strategic decisions.

Michael Singh's chapter is a contribution based on his expertise in post-mono-lingual research methodology. The chapter develops from existing critiques of monolingual study and asserts the intellectual benefits for a range of stakeholders – students, supervisors, administrators, and managers – of developing capacity for theoretic linguistic resources and fostering diverse intellectual cultures in higher education. Singh suggests that multilingual students and the intellectual capacity for divergence in theorizing will enhance the employability of graduates as well as their intellectual creativity.

Ahmed Mansour Mohsin and Karen Trimmer also contribute to the field of linguistic and cultural diversity in their study of international postgraduate students, with a specific focus on Arabic postgraduate students. They stress the implications of several interlocking developments, in that universities are enrolling higher numbers of postgraduate students, especially from Arabic speaking backgrounds, while universities at the same time are locked into a competitive market where the demonstration of quality is essential. Noting the now common deployment of Total Quality Management (TQM), Mohsin and Trimmer urge the importance of having the means both to measure quality and to use these measures to design and improve how they support and teach international students.

Section Four: Managing Doctoral Programs opens with Ronel Erwee's study of the training of doctoral supervisors. It therefore forms a bridge into this section from earlier considerations of off-campus study, student and supervisor relation-ships, and supervisor training. It further builds on the concluding chapters of Section Three by evaluating the implications of cultural differences between supervisors and their students. In order to discuss the management of supervisor training, Erwee situates it holistically within a wider research training framework and contributes recommendations for managing supervisory training that are derived from a research supervision toolkit.

In the next chapter, Ronel Erwee and Chad Perry look more broadly at doctoral study in general, pinpointing what research has already established about inconsistencies, idiosyncrasies, and deficiencies in the examination of higher degree theses. For university research managers, this review usefully highlights the delays that these inconsistencies can cause, then contributes suggestions about what could become standardized procedures for examination. Like other chapters in this collection, the case study is located in a specific national context but the emergent points from the discussion can be extended to examination procedures internationally.

Chad Perry and Angèle Cavaye explore what they term a "niche" area, the professional doctorate. Their examination of the characteristics, needs, and expectations of the people undertaking this degree adduces a number of characteristics, including career-focused individuals who expect to remain outside academia and who expect their degree to contribute to their professional progression. For university managers and administrators, this chapter offers important insights into and guidelines for research paradigms, methods, and structures at the outset of study, supervision during study, and examination at its end.

Examination is the end process of higher degree study, and David Thorpe's chapter steps back several stages to the process of supervision. His focus is on the unique characteristics of supervision in Engineering. Like the other chapters in this section, though, Thorpe engages with literature on the means to achieve a high level of success in supervision and the ways to establish a constructive supervisory relationship. Thorpe highlights the particular aspects of supervision in Engineering, where the boundaries between professional and academic can be blurred as many projects require expert professional input, and where engineers also require significant management skills in order to engage with projects. Within this distinctive framework, Thorpe delineates approaches to achieve a positive supervisory relationship.

Margaret Baguley, Martin Kerby, and Georgina Barton shed light on a further specific aspect of supervision, when both the supervisor and the candidate are professional colleagues at the same university. As they note, this type of supervisory relationship has as yet attracted limited scholarly attention compared to the literature available on many other aspects of doctoral supervision. Their research reveals how the already considerable pressure on the supervisor and the candidate can increase when both are colleagues and when career progression is part of the situation. Like other chapters, recommendations are provided as well as a blueprint for ways whereby university research managers and administrators can formalize this process. Like other contributors to this section, Baguley, Kerby, and Barton provide a detailed exploration of distinctive circumstances followed by recommendations for administrators to develop and manage these circumstances.

The degree of Doctor of Business Administration (DBA) is the focus of the chapter by Michelle Wallace and Teresa Marchant. Following discussion by Thorpe of the needs of Engineering students, Wallace and Marchant overview the needs of DBA students, focusing on the degree at Australian universities. They draw on empirical research data to propose the enhanced management of the degree, including its status within the academy and its structure, and the interaction between DBA

students and the wider university. Like other chapters in this section, the scope of this chapter is valuable in encompassing degrees that are newer and less traditional than the PhD and where the degree and its students are still part of an emerging cultural shift in postgraduate education.

Simon J. Pervan and Michael A. Kortt address a current downturn in the numbers of students enrolling in the DBA and the discontinuance of the degree at some universities. Suggesting that the DBA finds itself at a crossroad for its future development or even survival, the authors draw on their long professional experience of this degree to propose a checklist for program development and a means to assess the effective administration of the DBA.

After chapters with specific foci on Engineering and Business Administration, there is a return to a wider overview of doctoral studies in the chapter by Santina Bertone and Pamela Green. They present findings from a number of submissions to the review of the Research Training Scheme (recently repackaged as the Australian Research Training Program) undertaken by the Australian Council of Learning Academies (ACOLA). They endorse the suggestions already made in the literature that "one size fits all" is not appropriate or constructive for managing doctoral study, and they then offer findings for managing diversity and thereby having cascading positive impacts on retention and completion.

Finally, in **Section Five: Postgraduate Careers** the contributors turn to life beyond the higher education degree, including in the academy and beyond. Elizabeth A. Beckmann and Abby Cathcart open this section with an exploration of Australian models for preparing doctoral candidates for careers, although they also note that the contribution to the "knowledge societies" that doctoral candidates are expected to make extend to Europe, Asia, Africa, and Latin America. By drawing on current models for best practice, Beckmann and Cathcart offer strategies that university leaders can follow in order to develop the teaching skills of current students who will be academics.

The contribution by Jane Artess and Tristram Hooley adds to the discussion of taught postgraduate programs that earlier chapters had introduced. The postgraduate taught programs (PGT), they suggest, have career development as a unifying theme of the programs. They recommend increased recognition by higher education providers of the ways that PGTs can serve as career intervention strategies.

Like the other chapters in this volume, Pam Denicolo's contribution positions postgraduate education as currently being shaped by competing and powerful developments. There are more students than ever before enrolling in postgraduate education, while there has been increasing attention given to the work preparedness of graduates. Graduates are also increasingly expected to do more than contribute to knowledge, and employability skills are now a prominent aspect of discourses around the outcomes of postgraduate study. Denicolo presents findings from studies based on the United Kingdom's Skills Agenda and the Public Engagement and Impact Agendas, while also suggesting that the awareness of the increasing emphasis on employability is variable and inconsistent.

Postgraduate study, especially writing a doctoral dissertation or thesis, can often be thought of as a solitary activity, yet the capacity to be part of teams and to lead

teams is increasingly being recognized as essential. Engaging with this point, Peter McIlveen, Harsha N. Perera, and David L. Blustein discuss the Australian Collaboratory for Career Employment & Learning for Living (ACCELL) at the University of Southern Queensland from its conceptual foundation for professional learning to the theoretical approaches usable in the education of future researchers and in developing team work capacity.

Roslyn Cameron considers the means to develop researchers who are robust and versatile. Her study of Mixed Methods Research (MMR) is presented as a way of being a "trilingual" researcher as opposed to being a researcher trained in one specific method. Using the "Group of Eight" Australian universities as the starting point for her study, Cameron argues that MMR is currently absent from postgraduate research training options, and she presents a case for its inclusion. Furthermore, the chapter offers recommendations for the implementation of training and capacity building for students and supervisors.

Finally, Fernando F. Padro explores at times the paradoxical interface between Indigenous cultural norms and values and Western professional culture that attends the enrollment of Indigenous peoples in doctoral programs. The chapter identifies several principled strategies likely to increase Indigenous doctoral student enrollment and retention.

Conclusion

As a global community, how might we approach the task of (re)designing effective, sustainable, and transformative postgraduate education as part of the broader enterprise of reimagining higher education in and for the twenty-first century? If we were able to begin afresh on this project, which assumptions, attitudes, and values would inform our work? Which relationships – between students and supervisors, between universities and communities, between public and private sectors – would be central to nurturing the crucial ingredients of genuinely excellent doctoral study and supervision?

This chapter has examined some of the contexts, debates, histories, and possible futures necessary to address these questions. In particular, the chapter has highlighted key developments in the history of the development of universities as they pertain to the growth of postgraduate education around the world. Those developments illustrate both the centuries-long genealogy of the oldest universities and the relative youthfulness of the PhD, and the even greater recency of other kinds of doctorates.

The chapter has also introduced the subsequent chapters in this handbook, clustered around five sections. The coverage that the chapter authors traverse progresses from university contexts affecting postgraduate education to the interplay between graduate students and digital futures to pedagogy and postgraduate programs to managing doctoral programs to postgraduate careers. In sum, these diverse analyses from a number of different countries and disciplines distil important understandings about the character and the possible effects of contemporary postgraduate education. In doing so, they proffer specific strategies for potential

consideration by university leaders and doctoral students and supervisors, against the backdrop of the larger project of developing and administering universities that embrace the affordances of twenty-first-century innovations while remaining true to the purposes and outcomes of higher education.

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