

The development and impact of professional doctorates

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Introduction

Professional Doctorates (PDs) aim to be at the same level as a PhD but are typically designed as research degrees for advanced practitioners and are grounded in professional practice. These doctoral programmes offer professional development, a means by which to make change and creative interventions in practice situations. Doctoral programmes engage with complex professional matters, especially personal and professional development, professional networking, and research and development, educational pathways that lead to the impact of their practitioner research. There is a growing body of evidence that candidates' research has a wider socio-economic value with evidence of impact on professional practice and organisational change.

While this chapter focusses on PDs, it needs to be acknowledged that many PhDs especially those in practice-based disciplines such as the Arts, Health, Engineering, Psychology and Education have developed significant approaches to practice. In some cases it is difficult to distinguish between a PhD and a PD and in some institutions PDs are not offered as separate qualifications. Moreover, there are gradual and ongoing changes in doctoral education and indeed the changing role of higher education and its internationalisation may influence the ways in which doctorates are understood in universities. For example, research knowledge is accommodating a greater practice-oriented view through adoption of practice theory and the role of researching professionals. This has led to developments in doctoral curricula and is having an impact on both academic and professional practices.

For the above reason the wider context of practice for all doctorates is briefly discussed before engagement with the literature and practices of PDs. The development of PDs since the 1990s, is shown as having developed significant thinking on pedagogy, curriculum development and the development of practitioners as researchers, especially how research-led approaches can impact upon practice. PDs have been at the forefront of developing these programmes which focus directly on the needs of professionals in practice undertaking research in their practice situations.

The chapter starts with a focus upon practice and the rise of practice theory, in relation to all doctoral degrees. There is then a section on the value of doctoral learning, its wide ranging scope of outcomes and objectives demonstrating the different purposes of many doctorates. The following section relates to the widening concepts of knowledge and what is counted as worthwhile knowledge incorporating an inter or transdisciplinary approach inclusive of professional knowledge that is more practice-based. Following this is a section on the developments made by PDs in developing curricular and pedagogical approaches that are more conducive to achieving the practice-led outcomes and impacts that PDs often seek to achieve. Finally the actual impacts that many PDs have successfully achieved is discussed with examples.

Doctoral degrees and role of practice in research

Doctoral degrees generally involve a major piece of research that leads to new knowledge and/or a high-level contribution to practice. Doctoral research programmes once mainly aimed to produce researchers for universities and scientific organisations. However, this has shifted and doctoral graduates undertake a wider range of career paths. There are also developing international considerations concerning the purposes and outcomes of doctoral education. One of these is that universities remain for the most part structured according to divisions of disciplinary knowledge. Even though there has been a recent emphasis on interdisciplinarity, the disciplinary lens through which most academics have developed their thinking may have constrained the more diverse needs of practice-led research. There is growth in the provision of doctoral degrees that have appropriate, sustainable curricula for candidates who wish to develop themselves as practitioners, professionally and personally, and make positive changes to practice. This is the case both for PhDs that have a focus on practice and for the growth of professional doctorates.

Schatski *et al*'s (2001) landmark publication *The Practice turn in Contemporary Theory* was one marker of a 'practice-turn' in academic thinking across the social sciences signifying practice as the unit of analysis of social phenomena rather than individuals. This led to a focus on the situated study of professional practice in context. More recently, Kemmis (2019) in the context of education argued that there needs to be a change of sensibility so that the whole premise of learning may not be so much about 'what you need to know' but instead be about 'how should you be' and he cites the general thrust of the thinking of Wittgenstein. He goes on to suggest that learning can be understood as an initiation into practices which transform individuals, and then communities of practice transform because the practices of individuals have transformed. Such sensibility into practice theory has become a more helpful and compelling engagement for doctoral candidates whose focus upon practice demands 'real world' change.

These theoretical developments have encouraged practice-based research and inquiry for doctoral candidates. While many other authors have engaged with practice theory there is now a more explicit orientation towards practice in higher education internationally (Jones, 2018). Schatski finds three significant commonalities in practice theory; "... *the conception of practices as organised activities, the conviction that both social phenomena and key "psychological" features of human life are tied to practices, and the idea that the basis of human activity is non-propositional bodily abilities.*" Shatski (2012 p.22).

Practice theory differentiates practice-based social research from some other well-used paradigmatic approaches. The methodological application of a praxeological perspective in socio-economic research that takes place in practices can derive profound and authentic outcomes. Nicolini finds four strategies for conducting practice-based studies; "...*the analysis of the concerted accomplishment of orderly scenes of action; the examination of how scenes of action have been historical constituted; the study of the development and disappearance of individual practices; and the inquiry into the co-evolution, conflict and interference of two or more practices.*" Nicolini (2017, p43).

Such strategies have contributed to the development of new methodological approaches in practice-led doctoral degrees (Fillery-Travis and Robinson, 2018, Costley and Fulton, 2019).

Doctorates in general have experienced a change in their focus on practice (Barnacle and Dall’Alba, 2011) with a positioning that brings attention to practice as a concept and as a site for professional inquiry. Doctoral degrees internationally have become more engaged with knowledge production in practice settings (Boud and Lee 2009, Kot and Hendel, 2012, Armsby et al, 2018). An example is the industrial PhD and ‘Practice-based PhDs’ being advertised by universities in a variety of subjects. In these programmes, students are located within an enterprise undertaking research directly relevant to the needs of that organisation.

Anglophone distinctions between PDs and PhDs do not always reflect the now international tendency for PhDs to develop new directions that have more practice focussed and professional distinctions. Some PhDs focus explicitly on practice issues such as in the Industrial PhD and PhDs associated with more practice-oriented subjects, such as arts and engineering (Ellison, 2013). Some PhDs are attempting to become more practice orientated than they have been before. For example Prøitz & Wittek, (2019), address PhDs in Sweden, Denmark, and Norway that have made some PhDs more practice-based. In order to do this they made links between researchers and practitioners and between theory and practice to create a PhD in Education that is practice oriented. The idea is that candidates are supervised by both researchers and teacher trainers who represent theoretical and practice-based concerns respectively. They found that candidates being tutored by teacher trainers and by researchers who had very different orientations as to what their research should be, left the candidates themselves to resolve tensions between the conceptualisations of two sets of academics. However, the way the PhD programmes were structured and organised caused uncertainty, lack of clarity and were conceptually unclear. From this it can be deduced that a more practice-oriented approach to the epistemological issues of doctoral study would have a more stable set of research training requirements. This would include a concerted approach by all academics involved where the requirements of the research problem and the doctoral candidates’ positionality in relation to the research they are undertaking are foregrounded and interconnected. Practitioner-research can be undertaken with relevance to theory and with an aim to change or enhance practices. Prøitz & Wittek (ibid) found that to try and do that with two sets of opposing academics was not as successful as we have seen in some studies where a practice-oriented approach underpinned by theory was consistent across all supervisors, for example Wellington and Sykes, (2006), Boud et al, (2018).

Conceptualisations concerning epistemological issues are a key part of current debates concerning PDs and this is considered below. We also consider that discussion on what constitutes doctorateness, including the similarities and differences between PhDs and PDs, is likely to continue, and while there are usually nominally identical quality standards internationally, there are often different purposes that mean the curriculum, pedagogy and achievements have a different focus.

Purpose and Value

There can be concern that labelling doctorates as ‘professional’ and therefore more likely to be practice-based creates questions about their value and status. The question of equivalence between doctoral research degrees is significant in ensuring that practice is not considered an easy or less valuable route to doctoral status. A doctorate named as a PD

normally needs to meet the same standards and criteria as a PhD even when the emphasis of each differs.

The classification of higher degrees varies in different countries, for example in the UK doctorates are broadly standardised, having the same qualification descriptor for all research doctorates (QAA, 2014). The Australian Qualifications Framework, differentiate professional and academic forms of doctorates but the level is the same for both: *“The emphasis in the learning outcomes and research may differ between the different forms of Doctoral Degree qualifications but all graduates will demonstrate knowledge, skills and the application of the knowledge and skills at AQF level 10”*. (AQF, 2013, p. 63).

A practice orientation can therefore satisfy doctoral criteria, including originality. In presentation, there may be requirement for artefacts (including images, plans or performances) to be accompanied by analytical exegesis that demonstrates a contribution to knowledge. The format and purpose of doctorates continue to be an area of debate (Storey and Hesbol, 2016). The length of a written thesis varies often between disciplines and in some Arts subjects, the thesis can take the form of an exhibition with or without a contextual written element, for example the Doctor of Performing Arts in musical composition. The score itself constitutes a debate of ideas (Boyce-Tillman 2009).

Through a rationale that demonstrates ‘Practice as Research’ Boyce-Tillman et al (2012) account for different academic ways of thinking and working within Arts subjects which have diverse disciplinary or transdisciplinary characteristics. Similarly researching professionals outside Arts subjects, have created original knowledge mainly through their practice-based and practice-led research (Lester, 2012). Rather than reducing practice to just ‘the critical-analytical’ tradition in academia, these doctoral level approaches to researching work practices are being established. Where universities have developed successful PDs they have avoided the dualism of practice and theory and created a nexus between the research tools known in academia and professional practice outcomes/ artefacts of doctoral research.

Doctoral learning that seeks to enhance practice and develop benefit to communities and organisations in professional contexts is leading to different understandings of the wider knowledge contributions of doctorates by creating and providing useful and innovative contributions to professional work that impact on working practices (Costley 2013). Although this may mainly be paid working practices, it also includes unpaid work which could be community work, voluntary work and artwork.

The more general question of the purpose and value of doctorates is explored by East, Stokes and Walker (2014). They consider that there is specific relevance for professional qualifications where there is an expectation to contribute to the public good because there is a more direct connection with making changes to practices. They go on to argue that even though this direct connection is tangible it should not be instrumental. PDs need to go beyond a narrow economic understanding of the public good or instrumental interpretation of ‘graduate attributes’ and to follow a human development and capabilities approach, which we now discuss.

The social purposes of PDs have been explored by the Carnegie Project on the Education Doctorate (CPED) in the U.S. CPED (2016) understands practitioner-researchers as agents of social action and change through the production of knowledge that could lead to increased impact and achievement of social justice and contribute to the development of organisations, professions and community.

Armsby et al (2018) found the 'values and purposes' of PDs were perceived as a private good with respect to the development of candidates' personal and professional knowledge and as contributing to the public good through practitioners' research and social actions with a real-world impact. In their study participants were mainly tutors and leaders of PDs from international universities who were delegates at two UK conferences. Participants felt that where PD candidates are experienced professionals, the inclusion of their expertise in a nuanced evaluation of their research and critical reflective practice can be important components of the overall approach and impact on an area of practice knowledge.

PDs that include significant elements of practice are long established in the arts, engineering, psychology, education and health professions, especially the Doctor of Education (EdD). In a review of PDs in the UK, Mellors-Bourne et al. (2016), found the EdD is the most studied with 60 per cent of the papers labelled as PDs focused around the EdD The Doctor of Business Administration (DBA) was named in 5 per cent of the papers and there were few papers written on the Doctor of Clinical Psychology (DClinPsy). Hawkes and Yerrabati (2018) found the focus in the literature on the EdD unsurprising, given that higher education research is most strongly associated within education departments.

Despite the dominance of the EdD, within the small but growing literature on PDs, there has been consensus on several aspects relating to the development and impact of PDs. A substantial part of PDs occurs in work situations, reflecting their relationship to problem-solving, creative thinking and change agendas. Many programmes have devised approaches and frameworks explicitly designed for practicing professionals to undertake impactful research in their own field of practice and to develop themselves professionally and personally.

PDs are typically well-grounded in professional practice and are producing a growing body of evidence that candidates' research has a wide socio-economic value with evidence of impact on professional practice and organisational change (Boud et al 2020, Lundgren-Resenterra and Kahn, 2019, UKCGE, 2016, Gibbs and Maguire, 2016, Costley, 2013, Fox and Slade, 2014). These doctorates are increasingly developing curricula designed for advanced practitioners as vehicles for professional development and for addressing complex professional matters.

The numbers of PD programmes available have increased, particularly in the U.K., Australia and the U.S. and there has also been a wealth of publications that demonstrate the importance of practice (Lester, 2012) and the need to turn away from case studies towards researching principles of practice, the general principles surrounding how professional doctorates are being developed (Hawkes and Yerrabati, 2018). Such programmes might typically include a taught element that includes the situated practice of the researcher, with practice-led methodological approaches and with a view to make real world changes and

recommendations as an outcome. Such developments can enable PDs to stand as an appropriate and relevant qualifications for enabling professionals to develop their research skills and advance their profession and their professional practice (Costley and Lester, 2012, Burnard et al, 2018).

Doctoral research undertaken by practitioners in the context of their own practice has undergone significant development, often within an organisation and engaging with academic and professional communities of practice. The interplay between a 'real world' focus and a scholarly research approaches leads often to a new conceptualisation of the nexus between theory and practice in research. A more practice-conscious understanding of the nature of knowledge, its justification, and the rationality behind how it is understood by those in the field is more prevalent. The approaches to practitioner-led research often nurture the creation and application of knowledge needed to solve complex societal problems and/or create artworks involving a range of stakeholders.

Rather than attempting to differentiate between forms of doctorate, it may be more productive to conceive of a broad continuum of research-oriented work, including 'art as research', capable of encompassing a range of approaches at doctoral level.

Knowledge matters

Education reflects changes in society in an advanced technical and information age. The desirability of a 'knowledge economy' in which knowledge is generated and applied to foster social and economic impact has been also critiqued (Peters, 2009). One response which points to how the situation is more complex than a simplistic dichotomy between academic and professional knowledge comes from Drake and Heath (2011) who state that there appears to be a range of different knowledges produced through PD degrees, each underpinning power relationships which exist between different knowledge frameworks.

Research on practice and practice knowledge is not new and there are conceptualisations that have been with us for many years. Debates about practice also concern responding to a diversity of people and situated practices, 'Knowledge' needs to be applied that may not fall into the category of the coded, validated and legitimated knowledge the academy has filtered into disciplines and is in a wider category that seeks to be more inclusive. What can be described as legitimate knowledge is a matter for review and understanding; every-day and practical knowledge can be understood as having value; and disciplines are now considered stronger with the application of cross- or inter-disciplinary research. Some approaches have shown how a transdisciplinary lens on the world can open our eyes to multiple realities (Nicolescu, 2014). In this sense academic disciplines may be necessary, but they are not sufficient; practice is more than the application of theoretical knowledge. Investigations into practical questions do not have a direct outcome from theoretical and empirical inquiries alone. There is frequently personal engagement, through relational networks both human and non-human such as technologies, because practice is embodied, relational, participative, co-constructed, emergent, situated and engaged (Boud, 2012). Practices exist and evolve in historical and social contexts and include power dynamics and practical space, time, resource restrictions and opportunities.

The generation of new knowledge is understood as central to the outcome of a doctorate. For PDs and practice-led PhDs the doctorate can directly solve problems and improve qualities of society. The complexity involved in making knowledge work for social good is already embodied in the generally more practice-led areas of study and now extends to the more recent impetus to explore the specific impact of a wider range of practitioner-led research. PDs are effective in the implementation of knowledge that addresses societies' problems by developing creative possibilities from a variety of research and practice perspectives. Research on the curriculum and pedagogy that supports the highly motivated candidates that undertake practitioner doctorates is likely to progress such achievements. Lester (2012) noted the way professional knowledge can be directly affected by research and deeper understanding of critical and reflexive processes.

Knowledge in practice, Kemmis (2005) argues, can be constituted in the reflexive processes of the practitioner, the discursive and material processes of the context and the socio-political setting. This knowledge may not fit into disciplines, but it does have agreed value. Research in work situations has subject matter that is not necessarily a problem or need for creative development that constitutes a centralised disciplinary activity. Breaking away, but only to some extent, from the disciplinary knowledge that has confirmed the status and quality of higher education for more than a century has brought about some concerns in relation to the break-down of traditional notions of objectivity and validity and how knowledge can be said to have a sound epistemological basis and be reliable. A problem for practice-oriented research is that disciplinary knowledge results in 'weakly contextualised knowledge'. More strongly contextualised research data is more able to produce 'socially robust knowledge' (Nowotny et al, 2001). Reliable knowledge has always been reliable within boundaries, but the boundaries have changed to take on the wider social context generated by practice-based doctorates.

Since the 1970s there has been increased scholarly debate about experiential learning, knowledge that emanates from practice and the value of qualitative research. These three elements are all relevant to the development of PDs and are present in Schön's (1983, 1987) study on how practitioners reflect in their practice that advocated not only the study of practice but posited an inquiry paradigm to underpin that type of investigation. Schön's work brought about one of the most significant approaches now used within doctoral degrees designed for practitioner-researchers, the use of reflective and reflexive practice.

Schön (*ibid*) also challenged universities for having cultivated a technical-rational view of knowledge that is comfortable with manageable problems solved through theories and techniques rather than tackling the more difficult problems of human concern. Practitioner-researchers are therefore now given leave to choose to investigate professional concerns that are fraught with such things as uncertainty, complexity, uniqueness and conflict that reveal the instrumental problems of practice. It is these relevant and real-world issues that tend to be the subject of professional and practice-based doctoral research.

An example of how an expansion of knowledge has impacted doctoral education and doctoral outcomes can be seen in the criteria used for examining doctoral theses by some universities. Wellington (2013) undertook a study of the criteria used by a sample of UK universities to reveal the kind of knowledge that was being recognised as doctoral level.

These were: building on or extending previous work; new methods or techniques applied to an existing or new area of study; making new syntheses; new charting or mapping of territory; new implications for practice, policy or theory; bringing new evidence or new thinking to bear on recurrent issues or debate; and replacing or reproducing existing work, in a new context.

In the past, criteria for passing a doctorate would have been more about the examiners' judgement of whether the work constituted an original contribution to knowledge and that findings had been rigorously researched and analysed. While this is still the case, the definition of knowledge has broadened (see for example the UK quality assurance agency's doctoral characteristics, QAA, 2018). The definition of new knowledge is more able to encompass the outputs of all doctorates, not just PhDs. Some scholars and indeed some countries argue that PhDs are unnecessary because PhDs can encompass possibilities for this wider focus on practice.

A widening concept of knowledge is understood as emanating from, developed in and providing change for professional contexts. PhDs provide a way of addressing knowledge through the structures, curriculum, pedagogy and the purpose of their programmes as set out below. This is to some extent outside disciplinary cultures and can offer alternative views and values that have resonance with practice, thereby engaging higher education more coherently with learning at work.

Curriculum and Pedagogy

Although there have always been doctoral researchers that have undertaken practice-oriented research, some areas of doctoral education have developed pedagogies and curriculum innovations that better facilitate the development needs of knowledge production in practice situations. Many of these more recent developments involve inter- and transdisciplinary approaches to doctoral education. Transcending boundaries in research is now more prevalent and accepted, for example interdisciplinary research is often favoured by funding bodies. Transdisciplinarity as an approach that overcomes the structure of disciplinary differentiation in academia has become more recognised (Gibbs, 2015, McGregor, 2017).

Pedagogy and the practitioner-researcher

Doctoral candidates engaged in PhDs—who may be working in organisations, be independent consultants or be portfolio workers—seek to make changes in their practice, based upon research informed by the practitioners themselves and fuelled by academic know-how such as research designs, reflexivity, criticality and so on. Such a standpoint requires a pedagogical approach informed by the needs of the research and the researcher.

Through an explicit focus of learning, doctorates have enabled practitioners to enhance, innovate and increase their professionalism. Practices are emergent and cannot often be planned as in a classroom experience which intends to prepare individuals for research. Rather, learning from practice with a tutor/facilitator responding to what has already been experienced requires a more advisory pedagogy. Appropriate pedagogical approaches that support PhDs consider the focus of candidates' research which is often situated in work

practices remote to the university setting. Indeed, candidates understand and typically already have considerable expertise in their practice settings where the supervisors do not have familiarity.

The supervisor role is typically more of a facilitator of experience, rather than a research advisor, in which some of the more traditional power dynamics between learners and tutors are dispersed. Unlike in traditional PhD study, supervisors often do not have the expertise or positioning to solve the problem. Supervisors work alongside candidates, rather than acting as teacher or instructor, to help them develop themselves, enabling candidates to approach their work critically and reflexively. Thus, how feedback inputs provided by supervisors can be relevant to practice-oriented research issues involves a pedagogic approach with good facilitation skills, an understanding that PD knowledge is grounded in experience, an understanding of work practices and values, and it engages to a large part with informal learning. The abilities of supervisors therefore involve; an understanding of how practice knowledge is embedded in context, learning consultancy skills, reflexivity and reviewing skills (Boud and Costley, 2007). With candidates working full time and at a distance, sometimes overseas, online pedagogy is also of particular interest for all types of doctorate, and the importance of developing research capacity through online supervision has continued to be an area in need of development (Roumell, and Bollinger, 2017).

The role of supervisors of PDs requires them to support learners in having accountability for their own learning whilst localizing and claiming expertise in their own specialist area of the subject of study through reflection on experience, conceptualising and describing that learning. They do this in relation to wider contexts through discursive negotiation and engagement with, for example, communities of practice, employers, colleagues, tutors and other learners. Such educational contexts require learners to be self-directed and to resolve their own objectives and progression opportunities. Also, supervisors need knowledge of reflective practice, knowledge of programme planning, the recognition of prior learning and practitioner-led research.

Curriculum Frameworks

Supporting curriculum frameworks have been developed that are specifically designed for the needs of part-time, researching practitioners working full time and undertaking research into their professional context. For example, Kumar (2014) demonstrates how impact on professional practice and on candidates' professional growth can be a focus for the curriculum framework of PDs in a doctorate modelled on the Carnegie Project on the Education Doctorate (CPED) in the United States. Drawing from Schulman's, (2005) signature pedagogy for CPED, Kumar (ibid) shows how an online PD in educational technology was designed to include: a deep structure or a set of beliefs about knowledge acquisition; an implicit structure or beliefs about professional attitudes, values and dispositions; and a surface structure that represents teaching and learning (Shulman, 2005, Schulman et al 2006). A suitable research-based approach to their practice within a scholarly community of practice formed the deep structure of the signature pedagogy whilst learning activities based on adult learning theory and building a scholarly community formed the surface structure.

Lindsay and Álvarez (2019) recently proposed the Researching Practitioner Development Framework (RPDF), an online reflective resource specifically developed to support EdD candidates by offering them an opportunity to reflect on key areas of their professional

development as they progress through their studies. They do this by reflecting upon the three dimensions of the, cognitive, emotional and social which were developed into the nine areas of learning that make up the RPDF. This was formed into an interactive tool where students address all nine areas for their development. Lindsay and Floyd (2019) report on the RPDF in a longitudinal study and the findings suggest that candidates found the framework had been of particular value early in their studies and had helped them realise that they were developing their identity as researching professionals, ready to make a difference to professional practice through their research. Following a successful pilot with EdD year one candidates, the resource was introduced in PD programmes across the Open University in the UK.

Reflection and Reflexivity

Pedagogical practices for working with professionals as they interrogate their practice within the framework of research degrees have been developed to help them elicit tacit knowledge into a form that makes it reviewable and examinable. Reflection in and on practice and a reflexive approach to engaging with experience are key elements of PDs and have been acknowledged as fundamental to learning and teaching in the area of professional education if undertaken with due rigour, thoughtfulness and criticality (Bradbury et al 2010).

Schön's (1983, 1977) work on the reflective practitioner prompted one of the main approaches now used within doctoral degrees designed for practitioner-researchers, the use of reflective and reflexive practice. A critical perspective on reflection was advocated by Schön, whilst Hill and Vaughan state: *"...critical reflection involves identifying the belief systems or the doctrine that underpins a professional's outplaying of their professional practice or aspects of professional practice. This often involves identifying the philosophy behind their practice."* Hill and Vaughan (2017 p.39).

Although relevant experience enables people to reflect constructively on their practice, it does not necessarily mean that they do so. Reflection on practice is a deliberate act and these ideas are exemplified in Schön (1987, 1991) and since then in many useful texts that have discussed reflection and reflexivity in practice situations.

Programme Planning

Learning contracts or agreements are used in some doctoral degrees where an employer may be sponsoring a doctoral candidate or where the practitioner research undertaken in a professional area is enhanced by endorsement from a line manager or senior practitioner in the field. This can bring ideas and areas of knowledge together related to individuals, networks, employers and professional groups in specific contexts. Doctoral candidates can build their own programmes in a three-way learning agreement between university, candidate and employer or professional field. The bringing together of the parts of the research and the learning that are considered relevant to study, engages candidates in a self-developmental exercise where they can consider the full scope of their research and development including their own learning.

Networking and stakeholder groups

Universities can work with professional bodies, such as the British Psychological Association, and other work-related networks, such as the Confederation of British Industry, and come to agreement about the core features of their practice. Also, the influence of other stakeholders such as professional bodies on what comprises doctoral level study for practicing professionals needs consideration, and in some cases requires close cooperation for example in some instances entry into a profession can rely on successful completion of a recognised degree such as a professional doctorate in Clinical Psychology.

Curricula that contribute to personal, professional, or social impact have significant relevance now as doctoral education is increasingly considered in relation to work-related issues e.g. the employability of doctorate graduates and connecting doctoral research with impact for social good (East, Stokes and Walker, 2014).

Methodological approaches

The practitioner-led research and development projects that are the key element of a PD are typically based upon interventions underpinned by research in particular work contexts. Practitioners as researchers are engaged in solving highly contextualised problems and seek to do this using appropriate practice-oriented methodological approaches. The pedagogical and curricula implications for those running PDs have brought about developments in methodological approaches to research that have become more practice-based, with more attention paid to developing practical, real-time recommendations for practice as well as further research.

There is a connection between methodology and the generation of knowledge within academic fields of practice. Methodologies that have been constructed for the purposes of distinct academic disciplines, for knowledge codified within the academy, do not necessarily provide effective and appropriate approaches for generating and codifying practice-oriented knowledge. Even methodologies that have a local, generalised purpose, approached with rigour and a consideration for values, design of research and a considered and worthwhile outcome, can be problematic, e.g., certain forms of participatory action research with a “mechanical sequence of steps” (Kemmis and Wilkinson 1998, pp 21-24).

Different methodologies can be employed that avoid the problems of monological research structures that disciplines often impose (Kincheloe and Berry, 2004) and can focus on knowledge that is grounded in experience and understanding of work practices and values. In this sense, a distinction can be made between methodologies primarily directed towards the production in academic fields themselves and methodologies that are aligned for practice in professional and community fields of activity. Armsby, Costley and Cranfield, (2018) provide a specific illustration of where methodological approaches are thought to need tailoring towards issues arising from practice. They emphasize, planning for the outcomes of the research by paying attention to definition of problems and providing recommendations for stakeholder groups. While this distinction can be made, it is one of emphasis and purpose: methodologies are rarely intrinsic to either the academic or practice setting.

The rise in practitioner and project-based research has led to a closer scrutiny of research approaches and developing and utilising existing practice-oriented ways of effectively researching real-time, current research issues. Methodological approaches are often key to demonstrating tangible impact in PD research.

Ethical considerations

As methodological approaches develop, there are related discussions concerning insider research and ethical considerations in practitioner-led research projects (Costley and Fulton, 2019). There are ethical considerations related to the practitioner's practice and choice of research (Gibbs and Maguire, 2016) as much as the considerations about the processes of the research (Drake and Heath, 2011).

Ethical considerations include issues of values, trust and power. The positionality of practitioner-researchers requires them to take practice-led approaches to ethical considerations (Govers, 2014). This is because innovation required for creating change in practice often has to take account of the vested interests of an organisation, the insider status of the researcher, the possible economic or social value of the research, ethical considerations of particular professions and how power and politics can affect the context (Costley, Elliott and Gibbs, 2010, pp.25-59).

Widening concepts of knowledge in practice contexts are purposive to specific contexts. The wider contextual issues that are more socially and vocationally oriented come in addition to the 'culture' of academic knowledge. It comes about because practitioners as researchers need to make the right judgements and decisions to act based upon a deep knowledge of people and organisational protocols; their colleagues may require an insider's persuasiveness to secure action.

Impact and Outcomes

As part of the 2014 Research Excellence Framework exercise, UK higher education institutions submitted impact case studies demonstrating the impact of their research on wider society and will do so again for the 2021 REF exercise. Impact there was defined as: *"...an effect on change or benefit to the economy, society, culture, public policy or services, health the environment or quality of life, beyond academia."* UK Research and Innovation (2019).

Although these impacts measure the research undertaken by academics in universities rather than the specific impacts of that undertaken by doctoral candidates, the concept of impact is the same. Likewise, 'Pathways to Impact' was a compulsory section of the UK research grants bids for over 10 years until March 2020. Applicants detailed the actions they would take to increase the chances of their research findings reaching key stakeholders. The impact agenda is still vital to the generation of the knowledge that society needs, and the innovators who can be university researchers, doctoral candidates or any other kind of researcher can turn their research knowledge into public benefit, (UKRI, 2020).

Personal and professional impact

Early studies on PDs found that personal impact was highly relevant especially for practitioners who become researchers in their existing work contexts (Stephenson, Malloch and Cairns, 2006, Wellington and Sykes, 2006, Lee, Brennan and Green, 2009). Their doctoral work combined with already high-level professional work where they have positionality, ability to form networks, professional knowledge and experience, enabled them to develop themselves significantly. Their doctoral level abilities gave them more credibility amongst colleagues, self-assurance in their own abilities for high-level work, they gained influence and were prepared to work independently, be self-critical and put themselves into their professional work.

Any kind of doctorate is likely to have a personal effect on the individual researcher and could lead to professional impacts. The studies into PD impact are concerned with practitioners already in work undertaking a doctorate to further already high-level professional work. Their positionality, ability to form networks, professional knowledge and experience combines with the academic experience enabling ability to make significant impact.

Organisational and Wider Impact

Boud et al (2018) found that in a transdisciplinary PD, candidates were enabled to make organisational change due to their doctoral level abilities being perceived by professional colleagues as more credible. Fox and Slade (2014) found impact in the development of the graduates' conceptual frameworks, increased personal and professional confidence, enhanced engagement within and beyond their organisations and building of improved networks.

Later studies (East, Stokes and Walker, 2014, Fox and Slade, 2014, CPED, 2016,) have shown that professional qualifications tend to encompass an expectation to contribute to the public good whereby doctoral level practitioners engage with knowledge, experience and communities and seek to create valued purposes and products. The authenticity of 'real' conditions of practice that are the focus of the doctoral study provide an effective basis for producing professional knowledge and practices that have relevance beyond the immediate context. Candidates' reputation and circle of influence coupled with their practitioner-researcher doctoral experience enables a demonstrable contribution to society and the economy with benefits to individuals, organisations and nations.

In their systematic review of research on PDs (PDs) Hawkes and Yerrabati (2018) found that there is little written on the wider impact of PDs: "While it is clear for those who work with professional doctoral candidates that there is a wider value, this is not well documented in the literature". Similarly, Mellors-Bourne, Robinson and Metcalfe, (2016) call for research into the impact of change in the workplace that are the result of PD research.

Studies are now starting to research the impacts on organisational practices. A recent study from the authors involving a collaborative enquiry with professional doctoral graduates found that:

....around half of the respondents could point to actions that shaped or changed policy or the nature of practice within their domain of action.

Four of the seven respondents could point to wider community/cultural change and engagement in far reaching, largely self-generated social initiatives

Impact was found not to arise from products or achievements of the doctorate itself, but on the processes and habits of mind engendered in the doctoral process. The effects identified were ones of building and strengthening capacity of candidates as manifest through contributions to working with and fostering the development of colleagues and enhancing their professional area.

Boud et al (forthcoming)

Lundgren-Resenterra and Kahn's (2019) case study identified that professionals on a PD programme need to achieve more than personal growth as their success can be due to shared doctoral objectives with their professional colleagues resulting in a "collective meta-reflexivity and a performative collective reflexivity" leading to organisational change. Candidates need to create a discourse that cuts across research and professional practice as well as drawing others into it in ways that are acceptable to the organisation, relevant and critical. The impact and change factors in PDs are often implicit by their titles as indicated in the following doctoral project examples:

- **Improving implementation of National Patient Safety Guidance**
- **Solid waste pollution**
- **Financial capital allocation**
- **Management change through curriculum innovation**
- **Effective business and professional practices in franchising**
- **Developing corporate knowledge and a BAA plc policy position on aircraft emissions and climate change**
- **Innovations in theological education in the light of the contemporary understanding of the clerical profession**
- **A coaching model to create intercultural alliances in organisational cultures**
- **Foresight of aerospace and defence technologies in Greece up to 2020**

The link between knowledge exchange and PD research is fundamental to the impact of doctoral work. Knowledge exchange is likely to be a feature of making impact because researchers are bound to engage with people and organisations outside of academia in their negotiations towards research that concludes with impactful outcomes. Knowledge exchange indicates a mind-set towards impact in which research, knowledge exchange and impact are intertwined (ESRC, 2019).

Conclusion

The practitioner research that features in most PDs consistently involves approaches to knowledge that embrace a wide practice-based contribution to the field, approaches to learning and teaching that place the candidate as having practice expertise and the 'teacher' as facilitator of that expertise and experience. It emphasises learner-centred and reflective practice.

Curriculum innovation in doctoral programmes in many professional areas generally is moving towards a more practice-led focus and this is encouraged by national quality assurance guidelines and the body of work offered by practice theorists. PDs have been advanced in developing curricula that meets the needs of practising professionals. Some well-established doctorates, for example in Arts, Health and Education could share the principles applied in their practice-based focus through further publications. One area that has produced substantial research is the personal impact factors which are well documented. The curriculum factors that lead to specific tangible outcomes that enhance public good are less well documented. Whilst PD curriculum frameworks are evident there appears to be much development work still to be done. Practice is the connecting factor for practice-focussed PhDs and PDs are leading in the engagement with different aspects of practice and bringing the issues that arise from practitioners themselves into the doctoral curriculum. The impact and outcomes of individuals' doctoral work is a key feature that has been considered along with methodological approaches to practice situations especially where there is practitioner-led research and integrating professional knowledge into research.

The question of whether PDs are needed at all as PhDs can do this work is a relevant one especially as there are many countries that do not engage, or very little with separate PDs. It does appear that at the present time PDs are leading initiatives to advance how practice can have much more prominence in doctoral research training even though there are PhDs that focus on practice. Those people who undertake PDs appear to benefit greatly from the purposeful experience they receive where they are not expected to become academics and they have their professional practice and expertise acknowledged and accounted for in their doctoral degrees.

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